



Second Term
2016 - 2017

Name:.....

Class:

**Preparatory
One**



Index

Week No	Subject	Class Work
Chapter One Internet		
1	Internet main concepts	Worksheet 1
2	Internet services	Worksheet 2
3	Cloud computing	Worksheet 3
4	Cloud computing services	Worksheet 4
5	Internet Safe use	Worksheet 5
Chapter Two Scratch		
6	Introduction for scratch	Worksheet 6
7	Moving & Repeating codes	Worksheet 7
8	Stage backdrop & Customs	Worksheet 8
9	Using pen & Voice Codes	Worksheet 9
10	Project	Worksheet 10

Chapter One



Internet

Lesson 1

Internet main concepts

What's the internet?

The Internet is a global collection of computer networks that are linked together and use a common set of protocols for data transmission.



Internet connection requirements:

- 1- Computer device (with a network card).
- 2- Internet service provider (ISP).
- 3- Internet browser (Google chrome, Internet explorer, Fire fox).

Protocol:

- A determined rules that allows the computer devices which connected to the internet to communicate.
- Protocols organize sending and receiving data through the internet, each protocol has a certain job depending on its type.

Internet Protocols.

Most popular protocols used in the Internet:

1- (IP/TCP) Protocol:

Used to connect computers to the internet, consists of two important Protocols:

a- TCP (Transmission Control Protocol)

It is responsible for validation connecting data from one computer to another.

b- IP (Internet Protocol)

Responsible for transferring data from one computer to another.

2- FTP (File Transfer Protocol)

Responsible for transferring Files from and to the internet.

Website

A set of related web pages located under a single Web server, and the Website has a name URL (uniform resource locator)

URL Consists of



Web Page

A hypertext document connected to the World Wide Web.

Home page:

Is the first page on the web site, through it you can navigate to all web pages, it also called the main page.

Hyperlink:

Is text or picture when click on it transmit you to another place.

Download

The process of copying (data) from the Internet to your computer.

Upload

The process of copying (data) from the computer to the internet.

Worksheet 1

1-define the following:

Internet.....

Protocole.....

2-Complete the following using these words:

(Copying - Activate - related web pages)

- 1- Downloading is a process of data from the internet.
- 2- The hyperlink ison clicking on it.
- 3- A website is a set oflocated under a single Web server.

3-Match the following definitions:

1	Home Page		A set of related web pages located under a single Web server, and the Website has a name URL (uniform resource locator)
2	Download		A hypertext document connected to the World Wide Web.
3	Web Page		Is text or picture when click on it transmit you to another place.
4	Hyperlink		Is the first page on the web site, through it you can navigate to all web pages, it also called the main page.
5	Website		The process of copying (data) from the Internet to your computer.

Lesson 2

Internet services

Internet offer a lot of services.

Internet Search

Searching websites on the internet considered to be the most popular sites which millions of people use it.

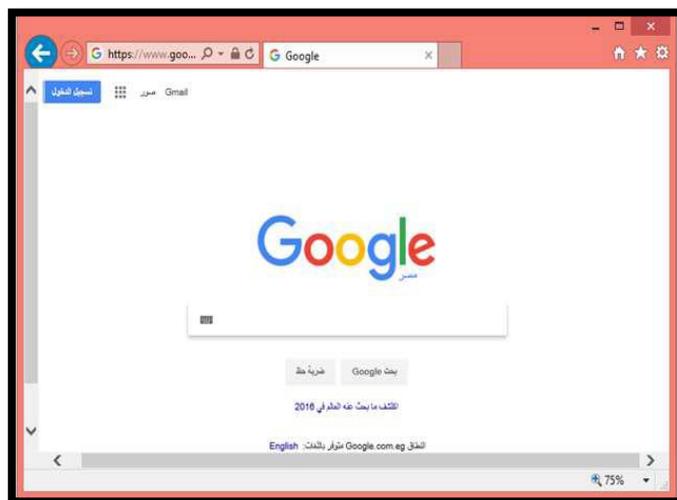
You can search for documents, photos, news and books.



The most popular search engines are:

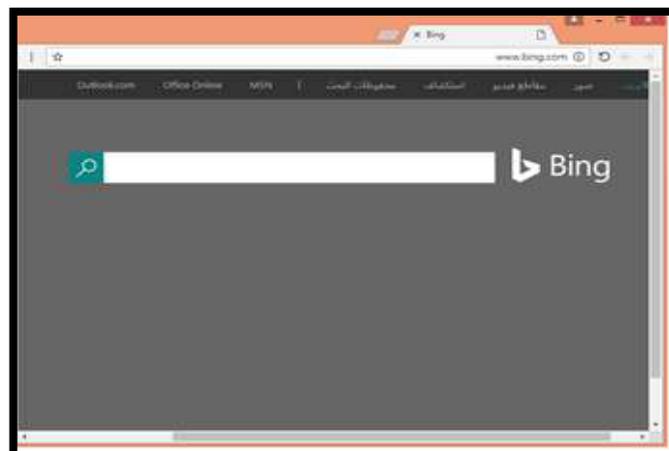
Google search engine:

Most popular one, it have millions of websites address.



Bing search engine:

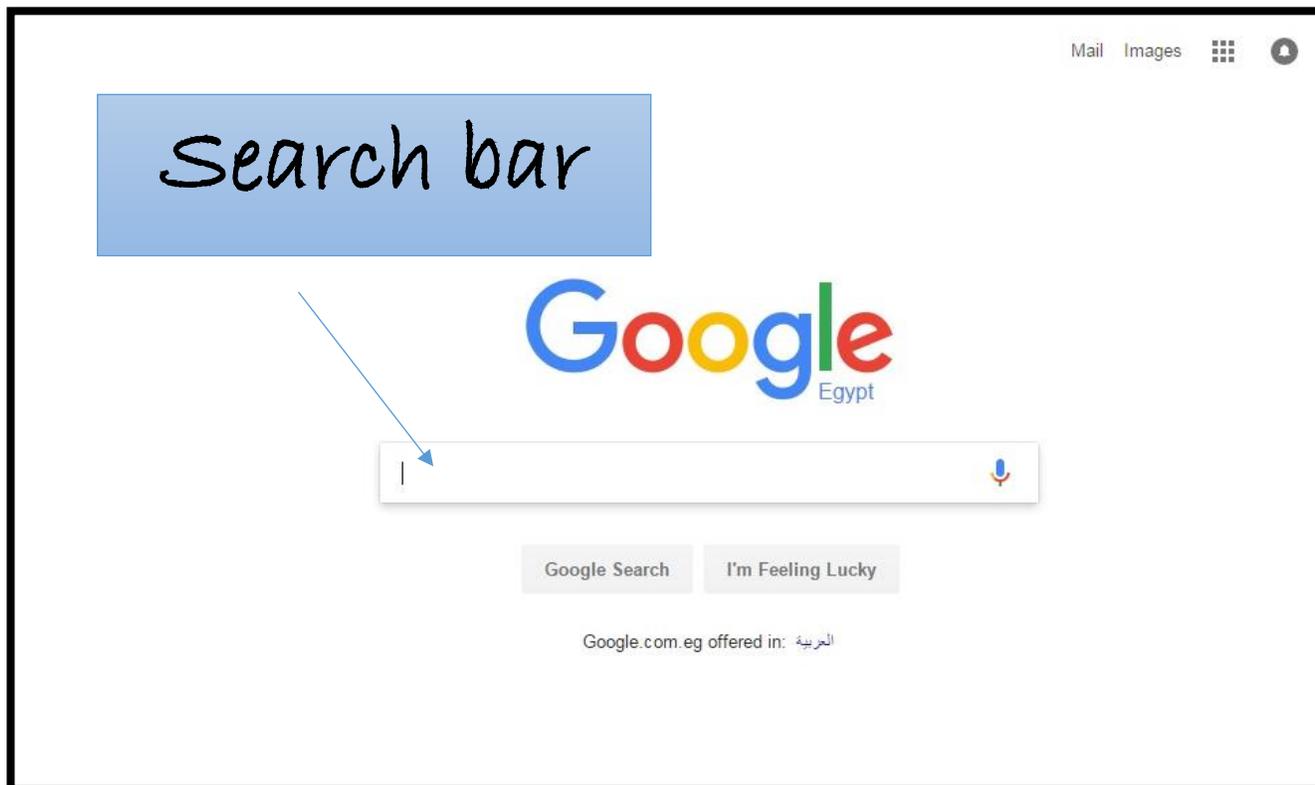
Its address is: WWW.bing.com



How to use search engine:

1-Write a searching word inside the search bar.

2-Click ENTER button.



Mailing List service

It's a mail list of number of people, which we can transfer a message to all mails inside the list.

File Transfer Protocol (FTP) service

It is a service provided by the internet to transfer files among internet users easily.

News group's service

It's some places on the internet where people meet to talk about sports, science,.....

Chats service:

It's a software allows people to talk all over the world through the internet.

Social media service: (Facebook& twitter)

People interact and communicate through these sites

Electronic trade service

Some websites offer this service to buy and sell things.

Email service

People can send and receive emails through the internet(text message, videos, pictures)

**Web service (WWW)**

It's a shortcut for World Wide Web, it's a way to access information through the internet.

Worksheet 2

1-Complete:

1-.....consider to be most popular search engine.

2-Mail lists is

.....
.....

3-From the internet services ,

.....

2-Write the scientific term of the service:

1- People can send and receive emails through the internet (text message, videos, pictures) (.....)

2- It's a software allows people to talk all over the world through the internet. (.....)

3- It's some places on the internet where people meet to talk about sports, science (.....)

Lesson 3

Cloud computing



It's a developed technology based on transferring the processing and storing of the information from the computer to a cloud, and this cloud is a server or number of servers which can be accessed by the internet.

We can use it from home or school using computers, mobiles, or tablets.

Main components of cloud computing:

Software: It is the applications that user needs like: (Word – Excel sheets)

Platform: It is the process of storing files and accessing of database and organize this to all the users.

Infrastructure: Preparation of materials like servers, processors, and storage units.

Cloud computing services:

- **Email services:** Google, Yahoo,
- **Cloud Storing services:** onedrive, Google drive.
- **Cloud music:** icloud ,sound cloud
- **Cloud software:** Photoshop express.

Importance of cloud computing:

- Access your documents from anywhere through the internet.
- Decreasing the costs of used hardware.
- No need to have software licenses.
- It can be used in different fields like agriculture, medical uses.
- Connecting to different websites.
- No needs for maintenance costs.

Disadvantages of cloud computing

- It needs permanent internet connection.
- Existing of personal information on the internet.
- You can't access your information's if there's any damage in the cloud service.
- The cloud computing service provider can decrease the storage units capacity at anytime.

Worksheet 3

1-Complete using these words:

(Cloud software – cloud computing importance - cloud computing – cloud storage - Google - Cloud - Sound cloud)

1-..... It's a developed technology based on transferring the processing and storing the information from the computer to a cloud.

2-From the cloud computing services,.....

,

3-..... is the ability to connect no of websites.

4-The most popular site providing cloud computing

2-Chose the right answer:

1-The mail components of the cloud computing is

a-Software b-platform c-Under form d-all

2-Importance of cloud computing is

a-High costs b-sharing c-secret information d-nothing

3-Put (√) or (×):

1-Connecting to the internet is not important for cloud computing. ()

2-From the web site cloud is sound cloud and icloud. ()

3-From the importance of cloud is sharing. ()

Lesson 4

Cloud computing Services

To use the cloud computing services of Google drive do the following:

- 1- Create a Gmail account with a suitable name.
- 2- Fill in the required information to create the account
- 3- Activate the account.

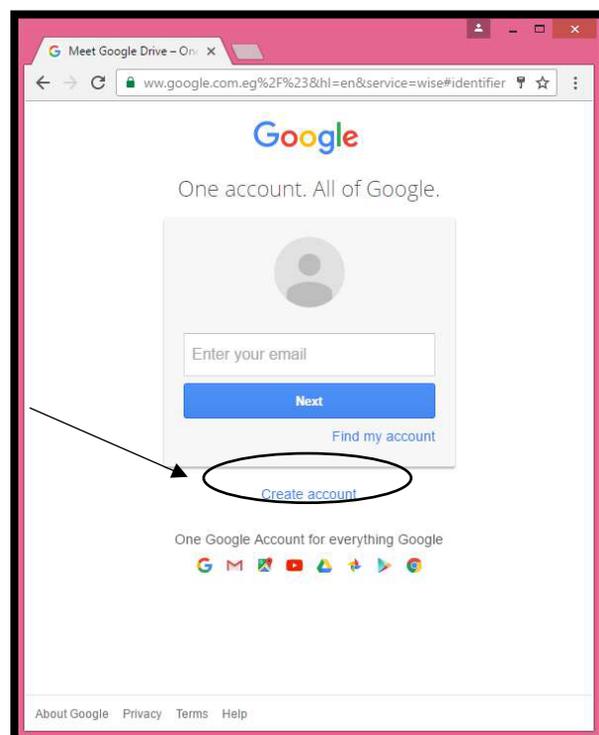


Steps to create an account on Google.

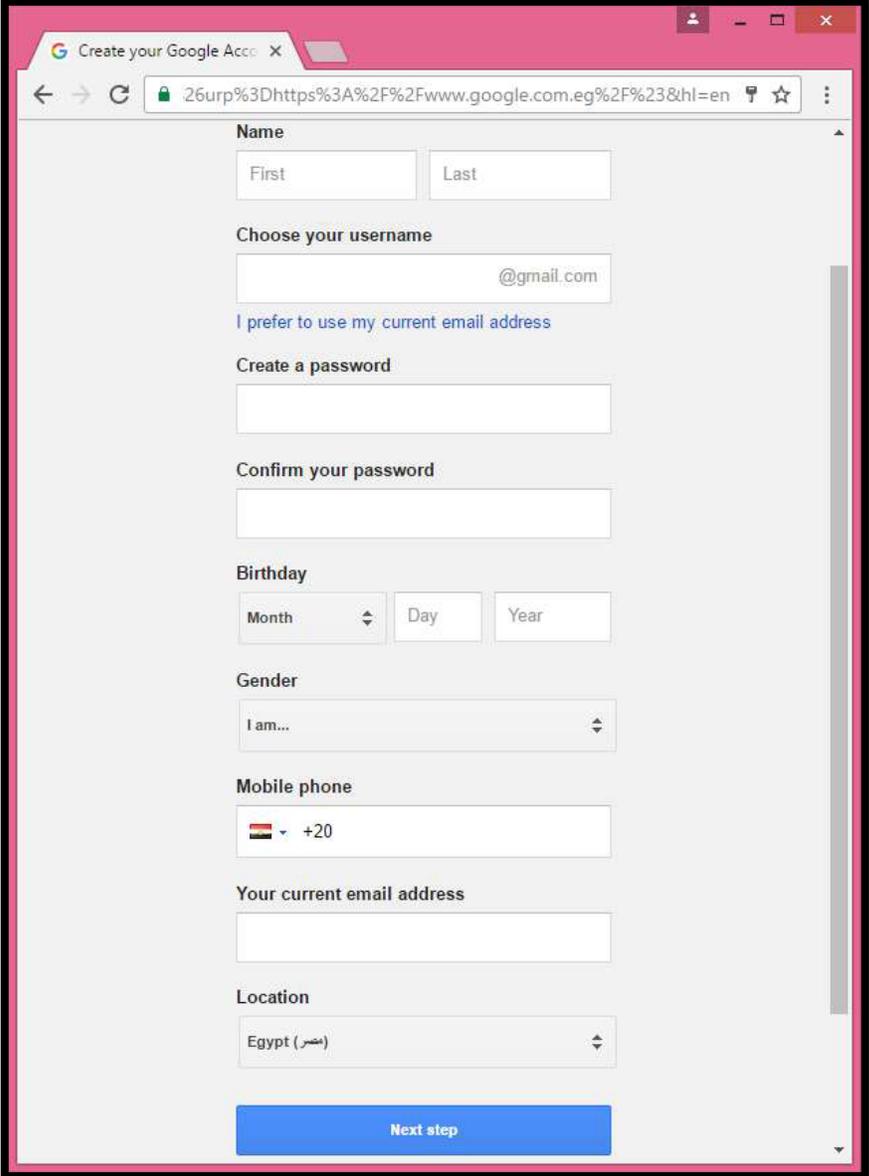
- 1-Open Google browser.
- 2-Click on Gmail from the top of the page.



- 3-Click on Create new account



This page will appear.

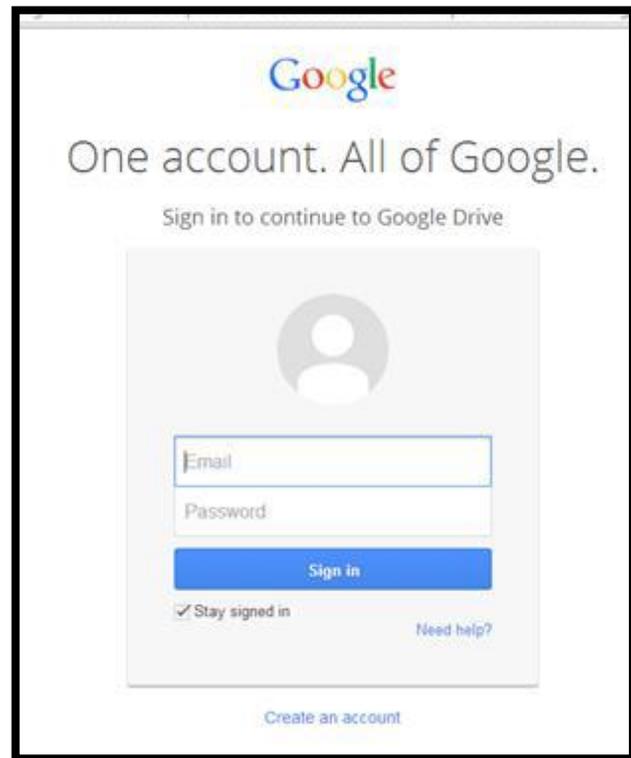
A screenshot of a web browser displaying the Google Account creation page. The browser's address bar shows a URL starting with '26urp%3Dhttps%3A%2F%2Fwww.google.com.eg%2F%23&hl=en'. The page content includes several form fields: 'Name' with 'First' and 'Last' input boxes; 'Choose your username' with a text box and '@gmail.com' suffix; a link 'I prefer to use my current email address'; 'Create a password' and 'Confirm your password' text boxes; 'Birthday' with 'Month', 'Day', and 'Year' dropdowns; 'Gender' with a dropdown menu; 'Mobile phone' with a country code dropdown (showing '+20') and a text box; 'Your current email address' text box; 'Location' dropdown menu (showing 'Egypt (مصر)'); and a blue 'Next step' button at the bottom.

4-Fill in the required information.

5-Activate the account by clicking on next step.

To use one of the services of cloud computing...

Open your new account on Google



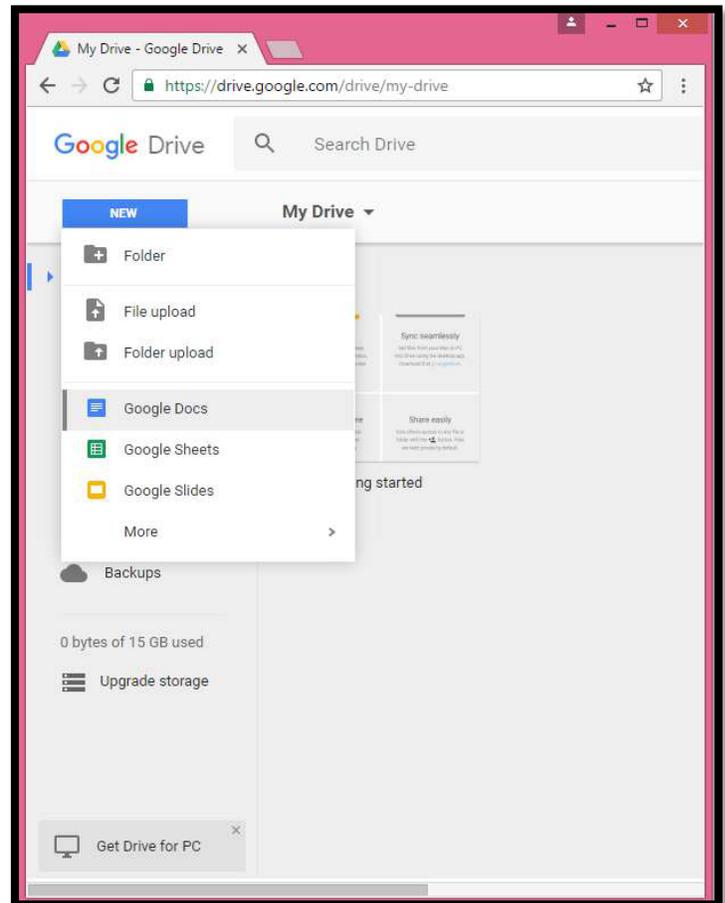
Click on Google Drive



To create a new document on cloud computing.

1-Click on new

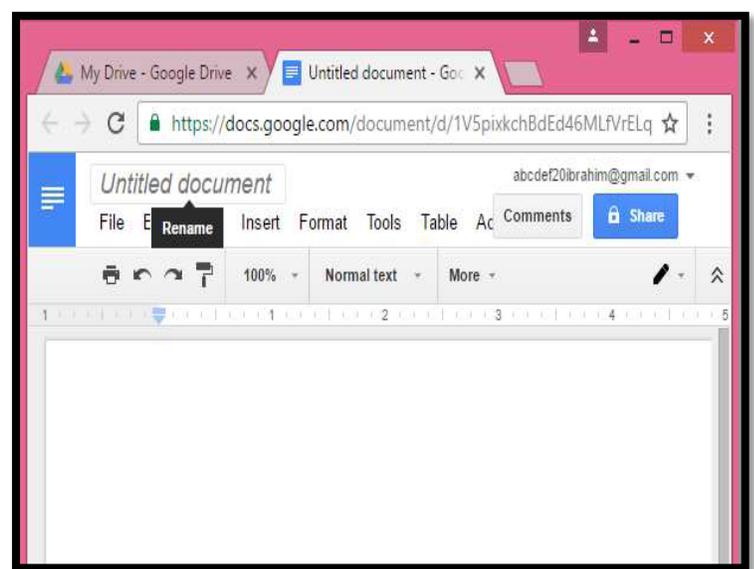
2-Choose Google Docs



A new document will be created

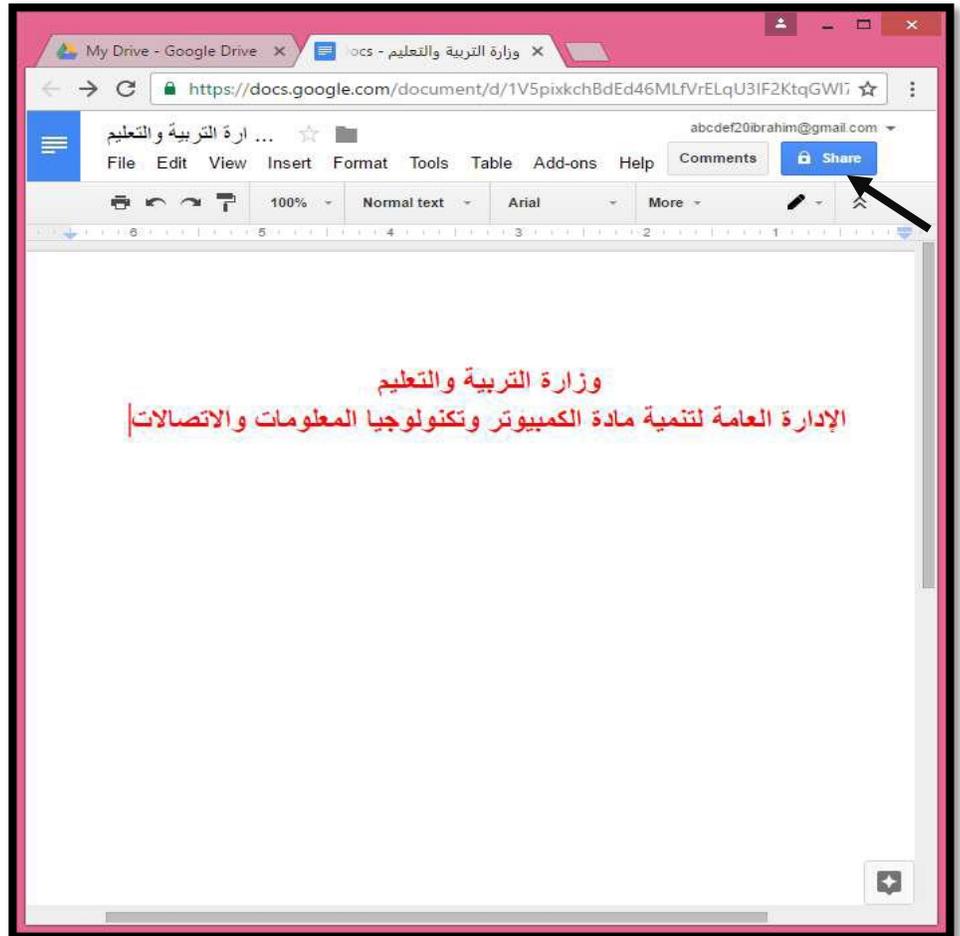
1- Name the document.

2-Write a text inside the document.

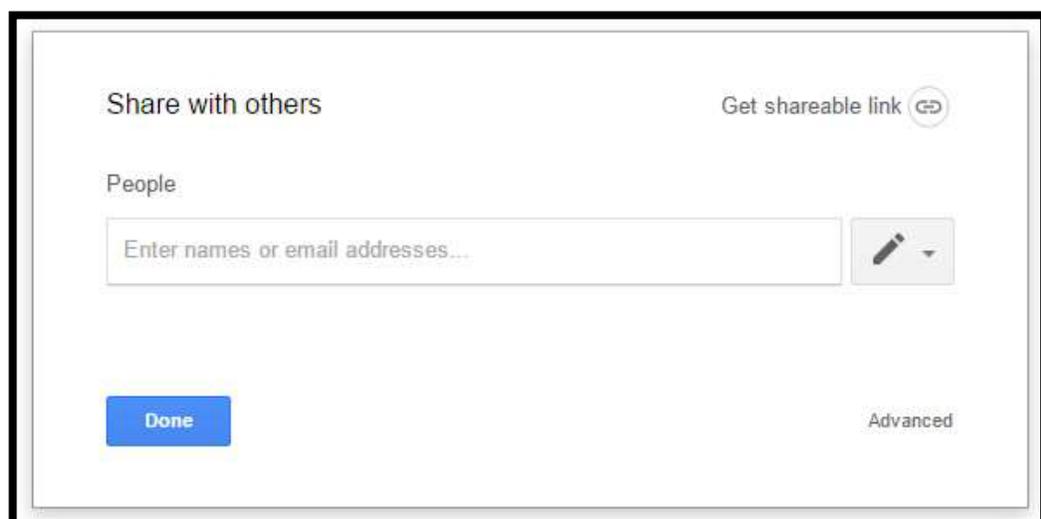


To share the document:

1-Click on share button



Insert the emails you want to share with them, these e-mails must be on Google.



Worksheet 4

1-Complete the following sentences:

1-To create an account using cloud computing in Google documents we must click on and then choose.....

Choose the right answer:

1-To share a file with your friends click on.....

(paste – Copy – cut – share)

2-To create a new account on Google drive choose.....

(Create account - Delete account – Copy account – sign in)

3-To create a new account on Gmail and write Google in

(tool bar – scroll bar – address bar – all the previous)

4-Put (√) or (×):

1- To use the services of cloud computing of Google drive, we must create an Email for the cloud computing. ()

To create a new account on Gmail, you must click on Google Apps and click on Drive. ()

2- To share a file with your friends, in the cloud computing it must be on Google ()

3- We can save a file using cloud computing using Google drive.

()

Lesson 5

Internet safety

It has become reliance that information technology is one of the most important way to communicate in life ways.

But the operation of internet security is very important for the users.

In this lesson we're going to know the right way to sit down in front of the computer and the safety factors for your health while using computers for long times.

The right way to sit on the computer



Safe factors to protect your health while using computers.

- 1-Choose the suitable brightness for the device.
- 2-Move your sight every 10 minutes for 10 seconds from the computer monitor and blink your eye to avoid eye dryness.
- 3-Stand up for a minute for every 30 minutes you spent in front of computer.
- 4- The level of your chair and the computer must be suitable, it's preferred to have a chair which enables your back and neck to be in a comfortable upright position.

5-Leave a space between you and the monitor from 50 Cm to 75 Cm, where monitors emit radiations with different amounts to the users.

6-Move your neck in a random way every 20 minutes, to prevent joints pain.

7-The best way for the computer is in front of you and to be far from the human body by half meter.

8-Move the hand that uses the mouse from time to time.

9-Move your legs while sitting on the computer.

Some expression and terms for safe use of the computer.

Cyber Bullying

Is the use of cell phones, instant messaging, e-mail, chat rooms or social networking sites in impolite way

Happy Slapping

It means one or more people attack a victim for the purpose of recording the assault, and publish it on social media.

Phishing

A con man pretends to be a member in an inquiries organization in order to get a personal or financial information from others through the internet.

The fraudulent practice of sending emails purporting to be from reputable companies in order to induce individuals to reveal personal information, such as passwords and credit card numbers

Contempt

Comment in impolite way in a social conversation.

Spam

Undesired E-mails comes from commercials sides and contains viruses or non-ethical components.

Firewall

Devices and programs used to prevent unauthorized login to a specific sites (unsafe)

Worksheet 5

Complete the following:

The Safety factors when using the computer:

- 1-.....
- 2-.....
- 3-.....
- 4-.....
- 5-.....

Define the following:

Cyber Bullying

.....
.....

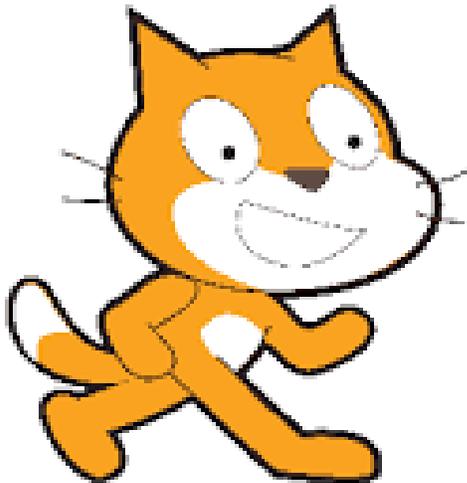
Contempt

.....
.....

Spam

.....
.....

Chapter Two



SCRATCH

Lesson 6

Introduction to scratch

Scratch consider as a graphic programming language differ from other languages known, where it depends on visual steps to make a program using it.

We can create games, moving shapes, and adding sound effects to your project and share your project to the internet.

Importance of scratch:

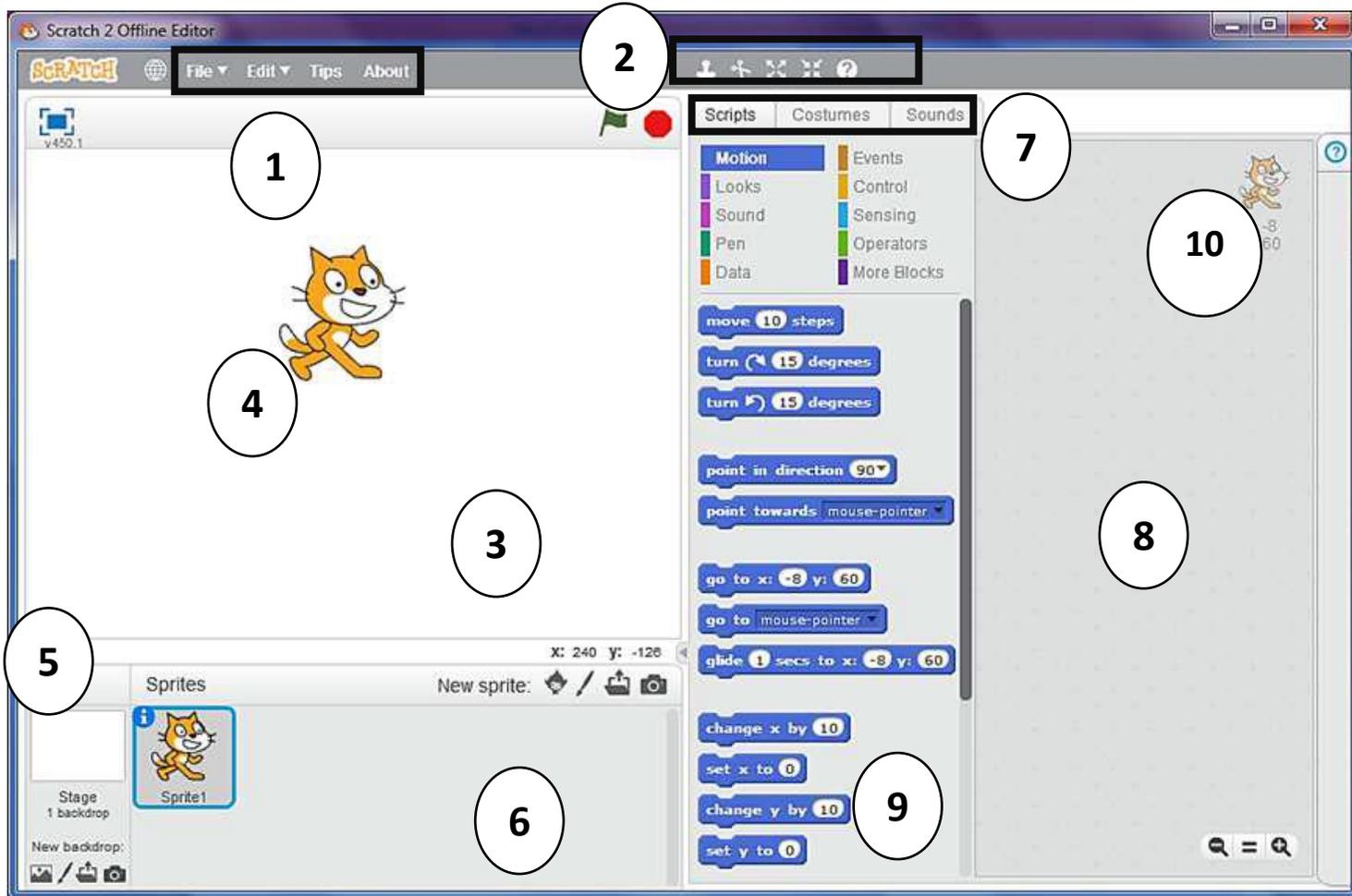
1. Helps to know programing languages easily.
2. Open source program, you can download from the internet.
3. Available while online, and while offline too.
4. Supported with Arabic language completely.
5. Can be used to create software's to other disciplines.
6. It can be easily created by butting the blocks with each other.
7. Helps to think in a logical way.
8. It can be used on different operating systems Windows – Linux.

How to open scratch:

1-Downenload the program from

<https://Scratch.mit.edu.scratch2download>

Main interface of scratch program



It consists of:

- 1. Menu bar
- 2. Tool bar
- 3. Stage
- 4. Sprite
- 5. Background
- 6. Sprites region
- 7. (Script, sounds, costumes) tabs.
- 8. Script area
- 9. Blocks area.
- 10. X – Y stage.

Changing language of the program:

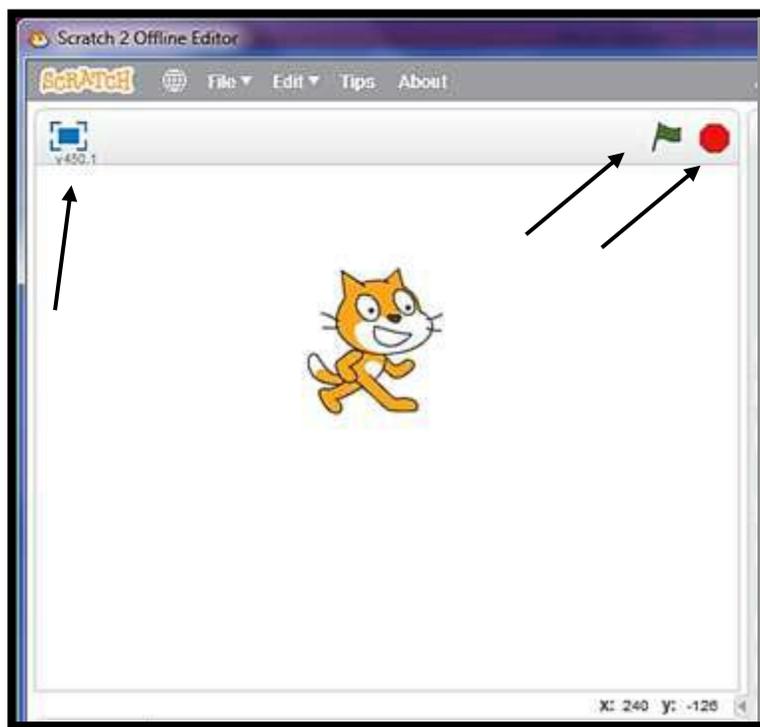
1-Click on this icon from the tool bar.



2-Click on the language you want.



We can control the stage using these three icons



To stop the program.

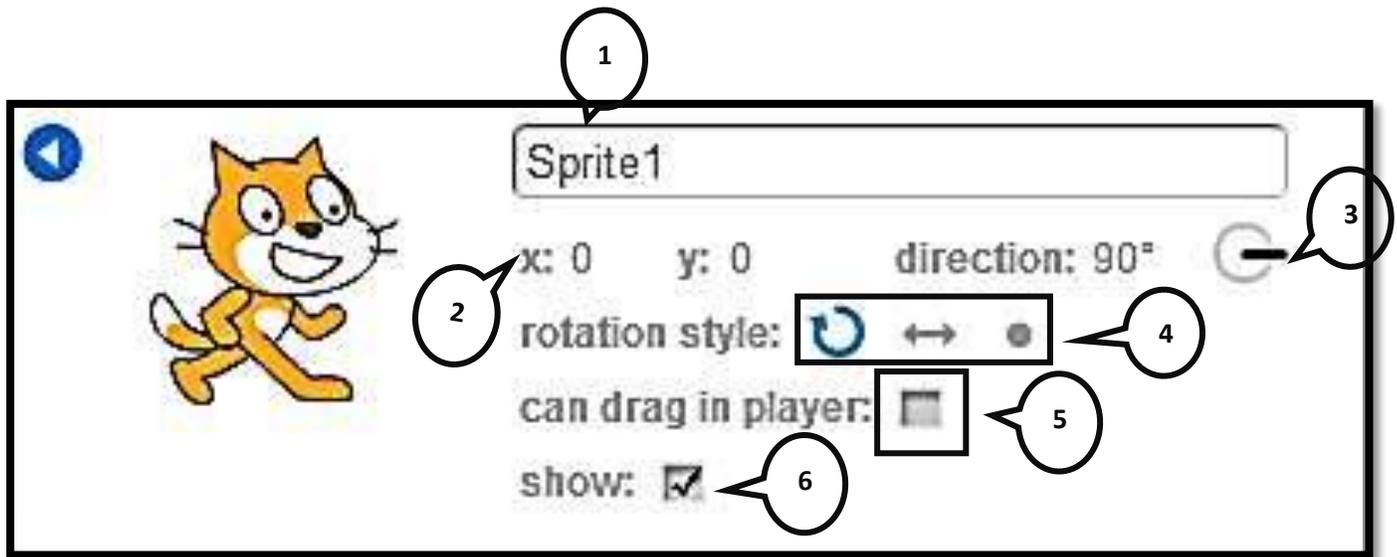
To play the program.

To enlarge the stage.



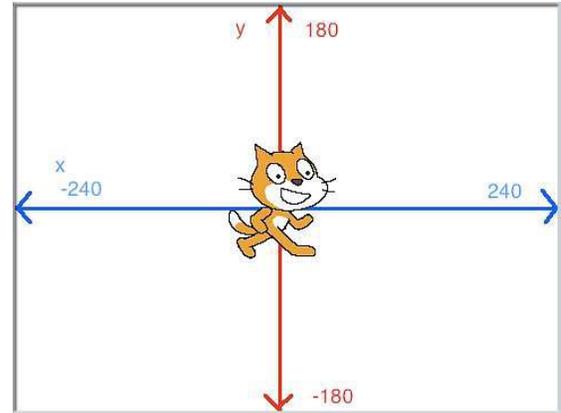
Sprit information:

- To display sprit information click on



- 1- Sprite name (can be modified).
- 2- Sprite position (x,y).
- 3- Sprite motion direction.
- 4- Sprite rotation style.
- 5- Sprite drag option.
- 6- Sprite visibility option.

Stage dimensions:



Scripts Groups:

It is Different groups, each one consists of some blocks which used in programming, and each one has a certain color.

Scripts groups

Blocks

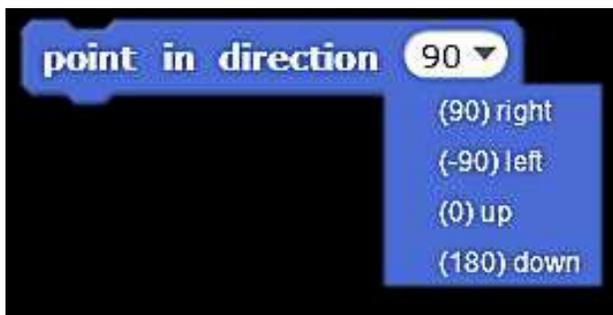


1. **Motion blocks:** which controls the motion of the sprite.
2. **Events blocks:** contains blocks which controls the event happens on the sprites in the project.
3. **Looks blocks :**contains blocks control the shape and look of the sprites

1-Motion blocks



The sprite moves number of steps.



The direction of movement of the sprite.

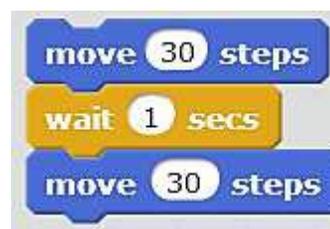


X – Y - direction for the sprites.



To wait number of seconds.

For example:



2-Event blocks



To show the presentation, must put on the beginning of the script.

For example



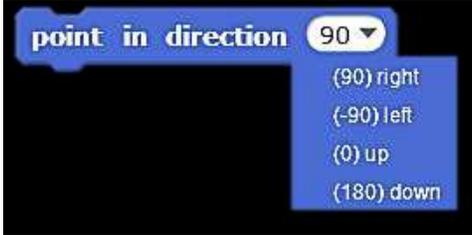
Control Blocks

We use the wait option to control when the second move will happen.



Worksheet 6

1-Match the following blocks, by its use:

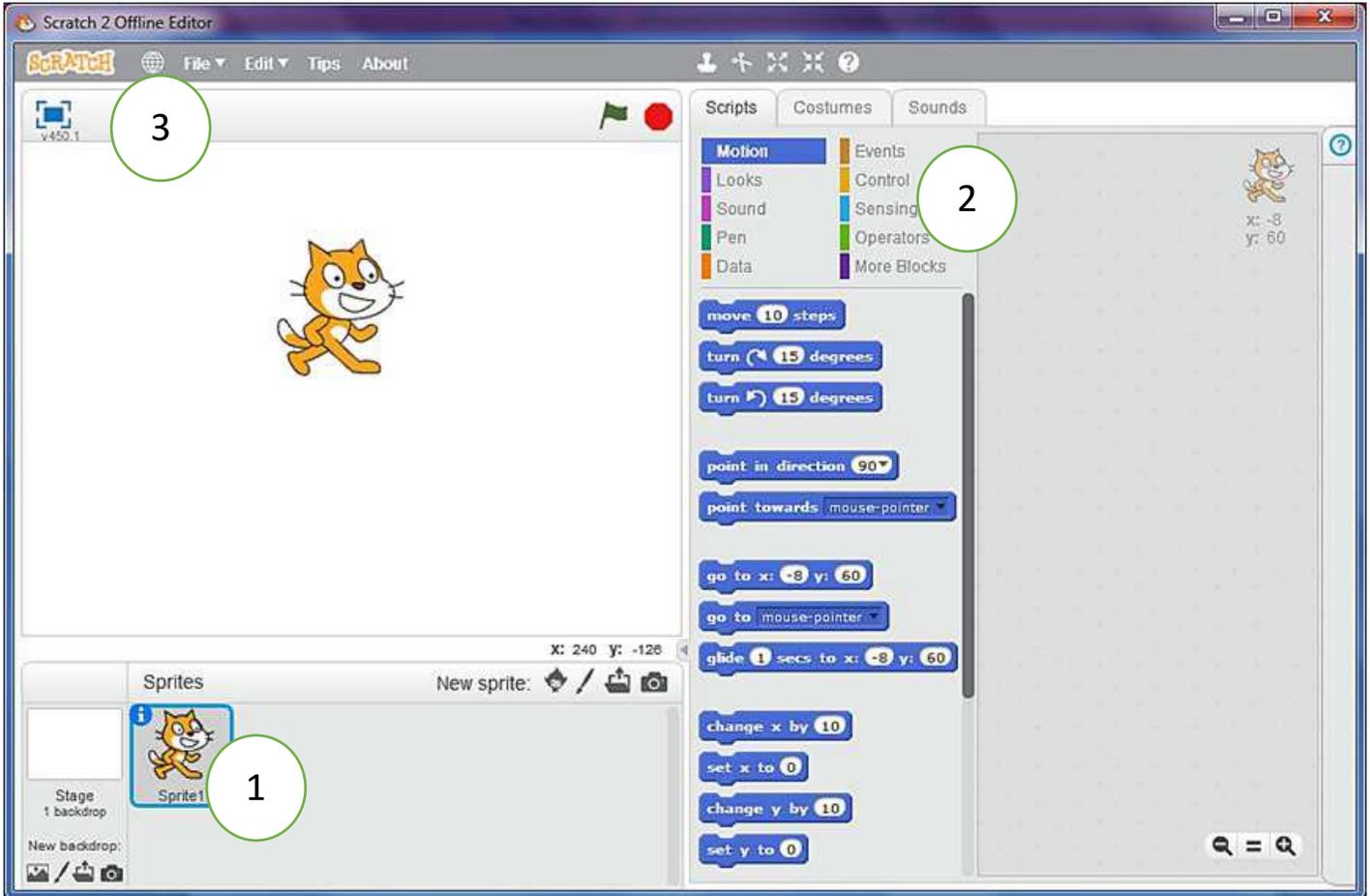
<p>To wait number of seconds</p>	
<p>To control the direction of movement of sprites</p>	
<p>To move to a certain direction X – Y axis</p>	

2-Write the steps to change the language of scratch:

1-.....

2-.....

3-Label the following numbers on the interface window:



1-.....

2-.....

3-.....

Lesson 7

Moving & repeating tools

How to repeat a motion for a number of programming scripts.

We have two kinds of repeat:

1-Repeating for a number of times.



We can control number of seconds to repeat the action.

2-Repeating forever.

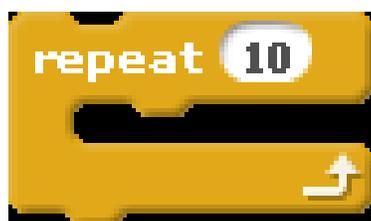


It will be repeated forever.

If we want to create a project for a repeating sprite action:

- From blocks control group choose repeat.
- Drag the repeat block in the script area.
- You can modify the waiting time.

1



2



3

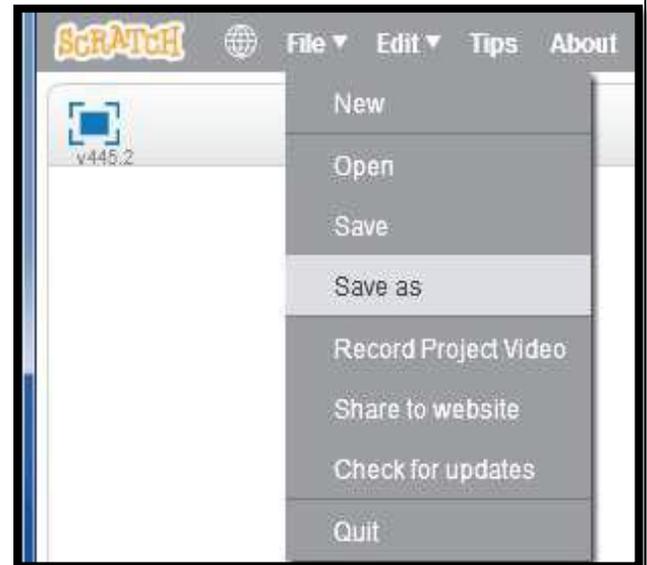


How to save the project

Follow these steps:

- 1-From file menu choose **save as**
- 2-Choose the location you want to save in.
- 3-Write the file name.

-The extension of the saved file will be **(.sb2)**



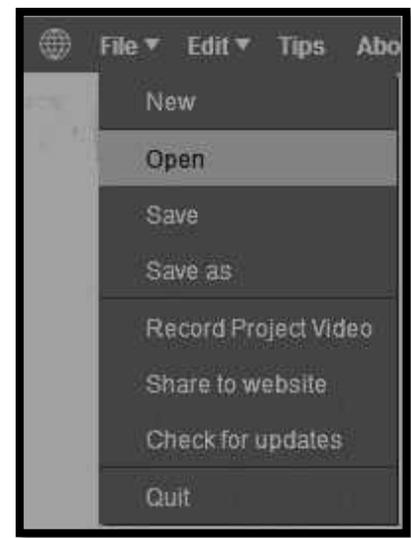
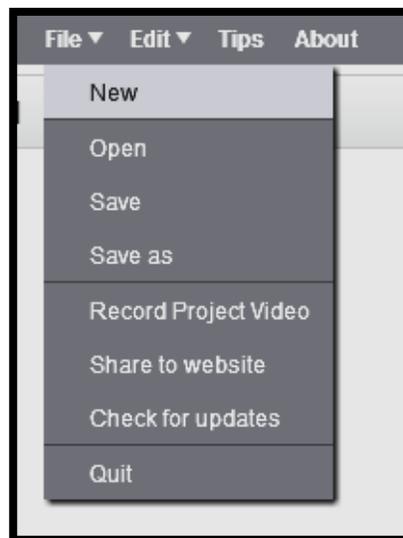
How to open a new project and a saved file?

Open a new project

File → new

Open a saved file

File → Open



Adding new Sprite

We can add sprites using several ways:

- 1-Adding sprite from the library.
- 2-Draw the sprite using paint program.
- 3-Import the sprite from any stored file.
- 4-Take a photo for the sprite using web camera.

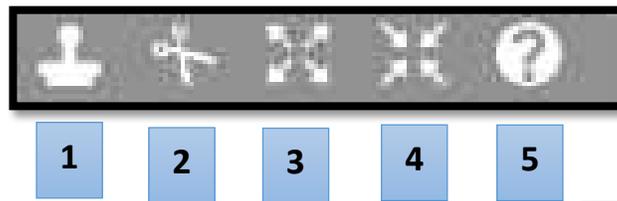
NEW SPRITE BUTTONS:

-  Choose from the library
-  Paint your own sprite
-  Upload your own image or sprite
-  Take a picture (from a webcam)

- And after that you can choose any sprite to add on the stage.

Dealing with sprites on the stage

We have a control tools bar for the sprites on the stage



1-Duplicateion of sprites

After holding the tool, drag and drop another copy of the sprite.

- We can do it in another way, Right click on the sprite → Duplicate



2-Deleting the sprite

After holding the tool click on the sprite to delete it.

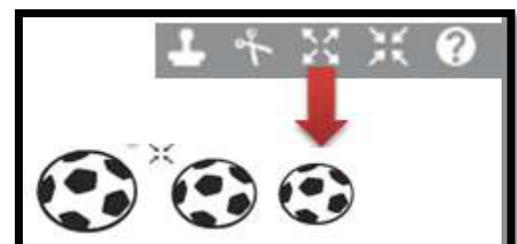
- We can do it in another way, Right click on the sprite → Delete

To undelete a sprite: Edit menu → undelete



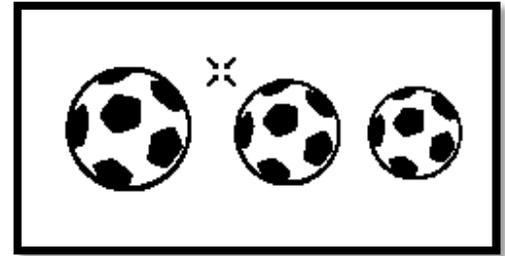
3-Increasing the sprite size

After holding the tool, click on the sprite several times to increase its size.



4- Decreasing the sprite size

After holding the tool, click on the sprite several times to decrease its size.



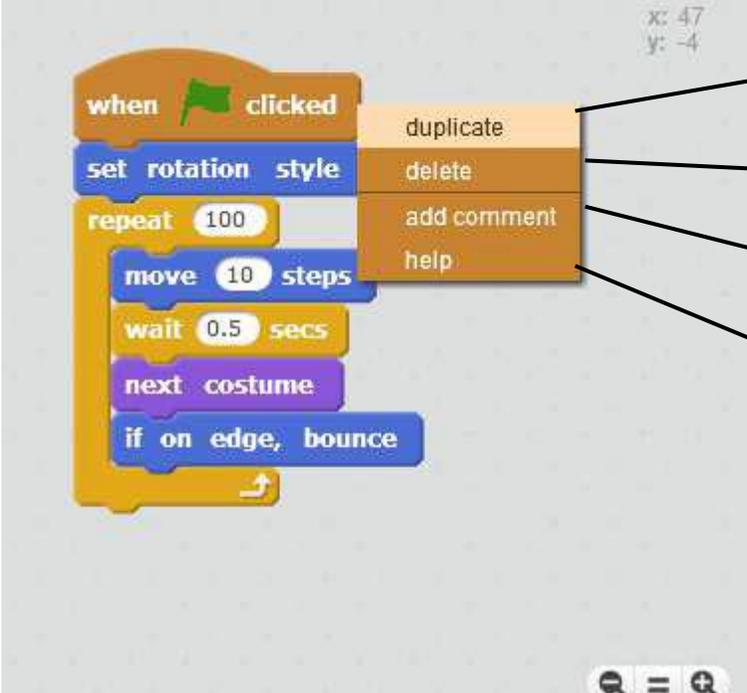
5-Sprite Help

We can use it to help in explaining the scripts.

Controlling the script sentence:

We can control the script sentence using the right click

Script sentence

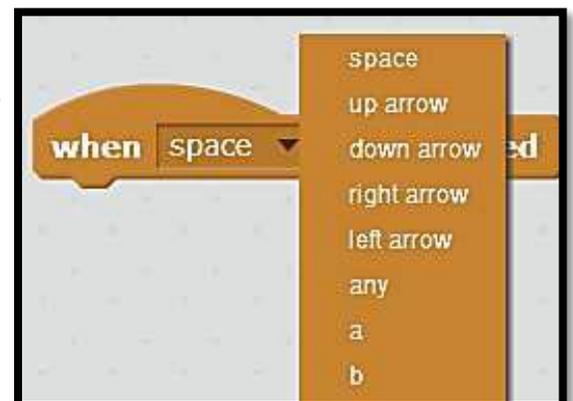


- Duplicate script
- Delete script
- Adding comment
- Help in explaining script

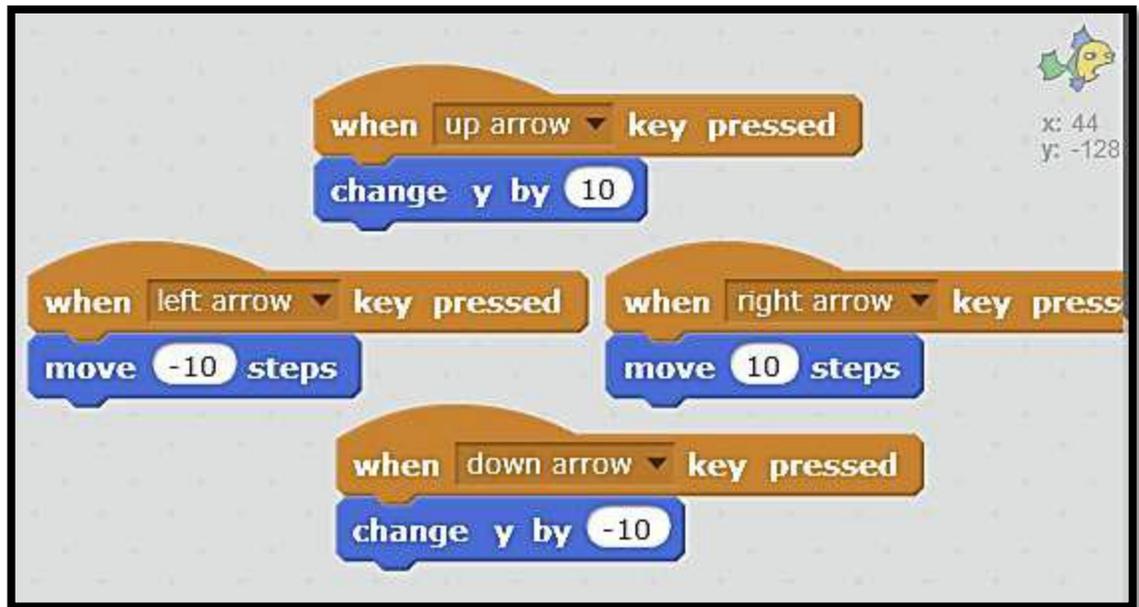
Controlling the size of script sentence

How to control moving a sprite using arrows in the keyboard?

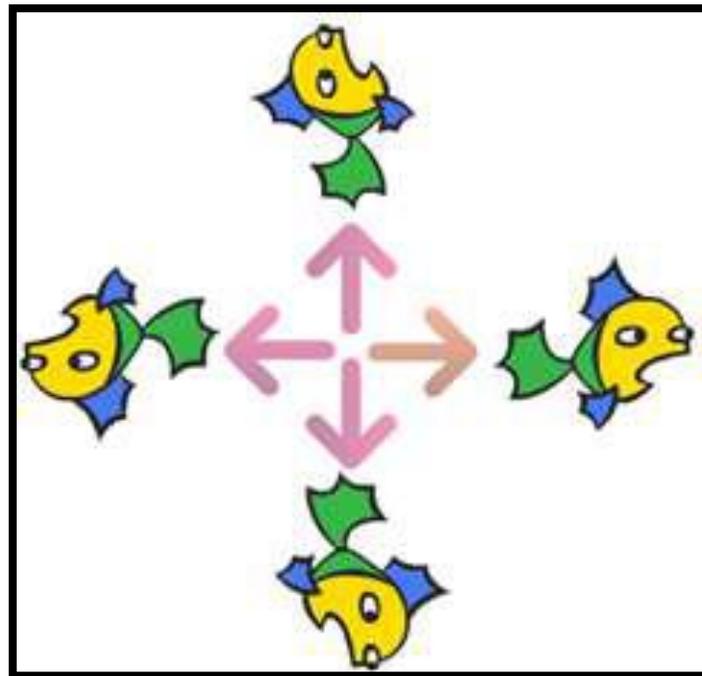
- 1-Add the sprite to the stage.
- 2-Double click on it to enter script area of the sprite.
- 3-Choose the script
- 4-We have these different options.



5-Build the script as the following:



After that the sprite will move by this way



Worksheet 7

1-Match the following:

1	Duplication of sprites	
2	Sprite Help	
3	Decreasing the sprite volume	
4	Deleting the sprite	

2-Compare between the following scripts:

	
1-.....	1-.....
2-.....	2-.....

3-Put (√) or (x) :

1-We can insert a new sprite by only one way. ()

2-We can increase the volume of the sprite on the stage. ()

Stage backdrop & Customs

Tabs bar:



It's a very important bar in scratch,

we can control sprite using this bar by several ways like:

1-scripts: To control script blocks and programming area.

2-Sound: To control adding sounds and recording it.

3-Backdrop/Customs: To control the sprite appearance, and the background.

We can use the coloring tools to edit the sprite inside the custom.

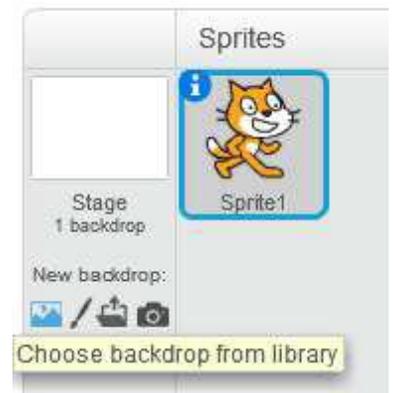
When activating the sprite \longrightarrow customs tab appears

When activating the stage \longrightarrow backdrops appear

The stage backdrop

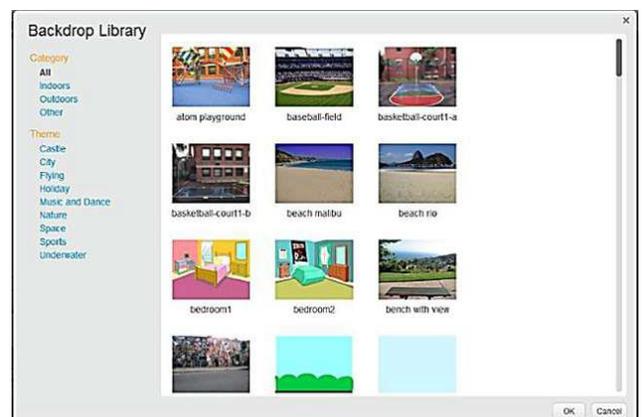
Steps to add a backdrop to stage:

1-Click on backdrop.



2-Choose one of four ways to add it.

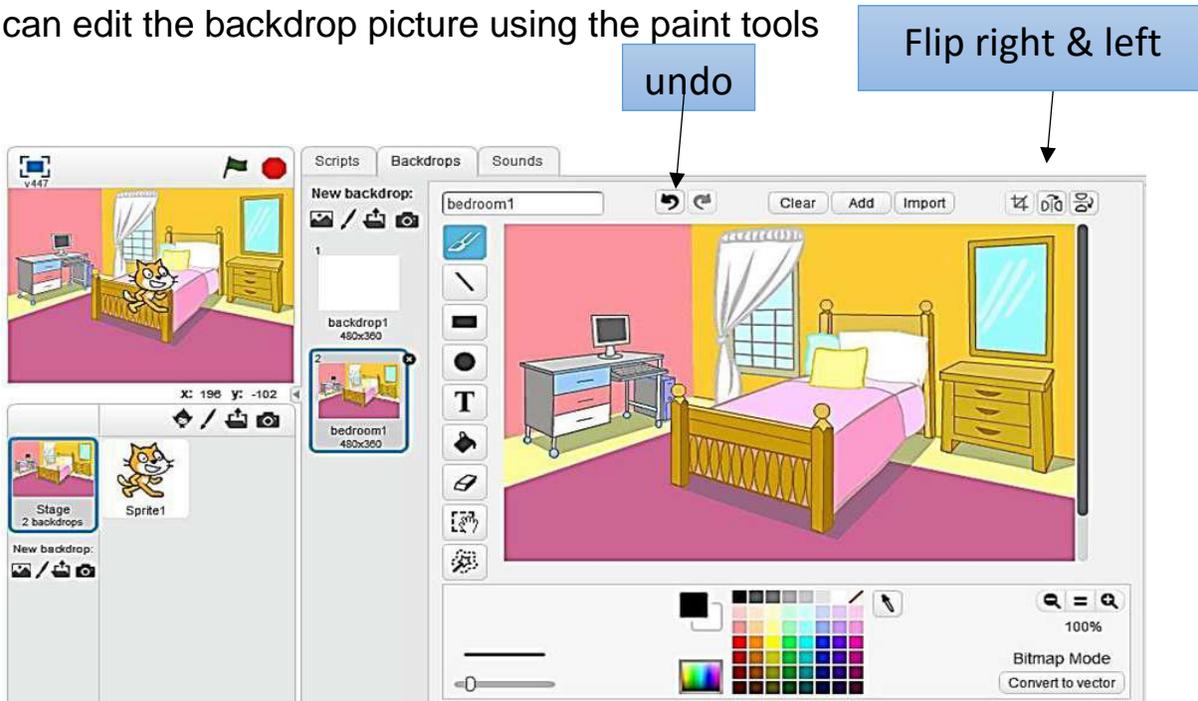
- Choose it from library
- Draw it with paint tools.
- Import it from the computer.



d. Using camera to take a picture.



You can edit the backdrop picture using the paint tools

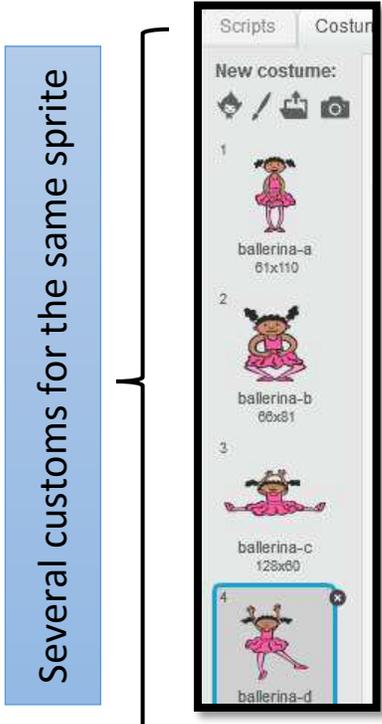


Customs

Sprite customs means that one sprite will have several appearances to do a motion.

Steps to add new customs for the same sprite:

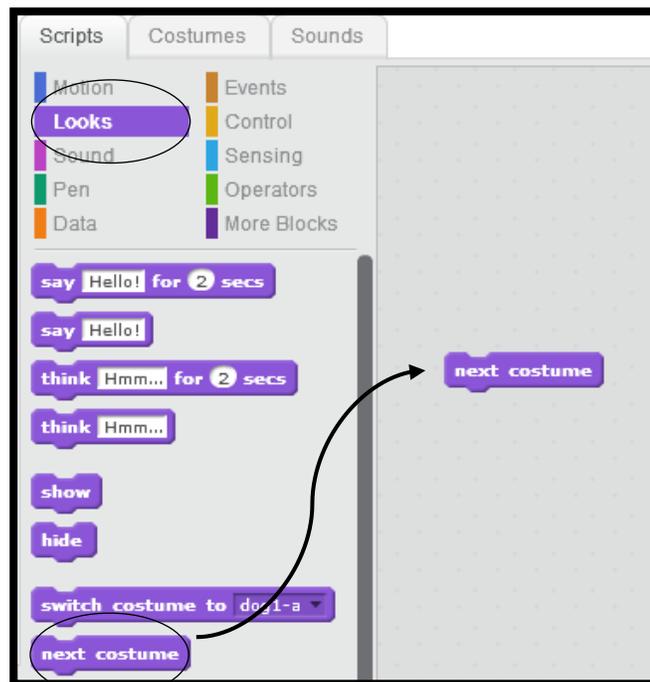
- 1-Activate the sprite by double click on it.
- 2-Click on custom label.
- 3-click on import to import the other customs.



Several customs for the same sprite



- We can switch between customs of the sprite by using this script *Next custom* in *Looks* group.

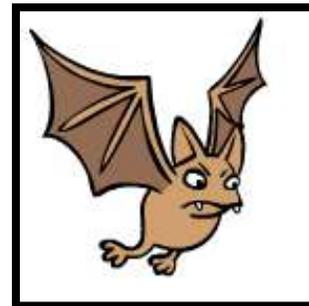


Example:

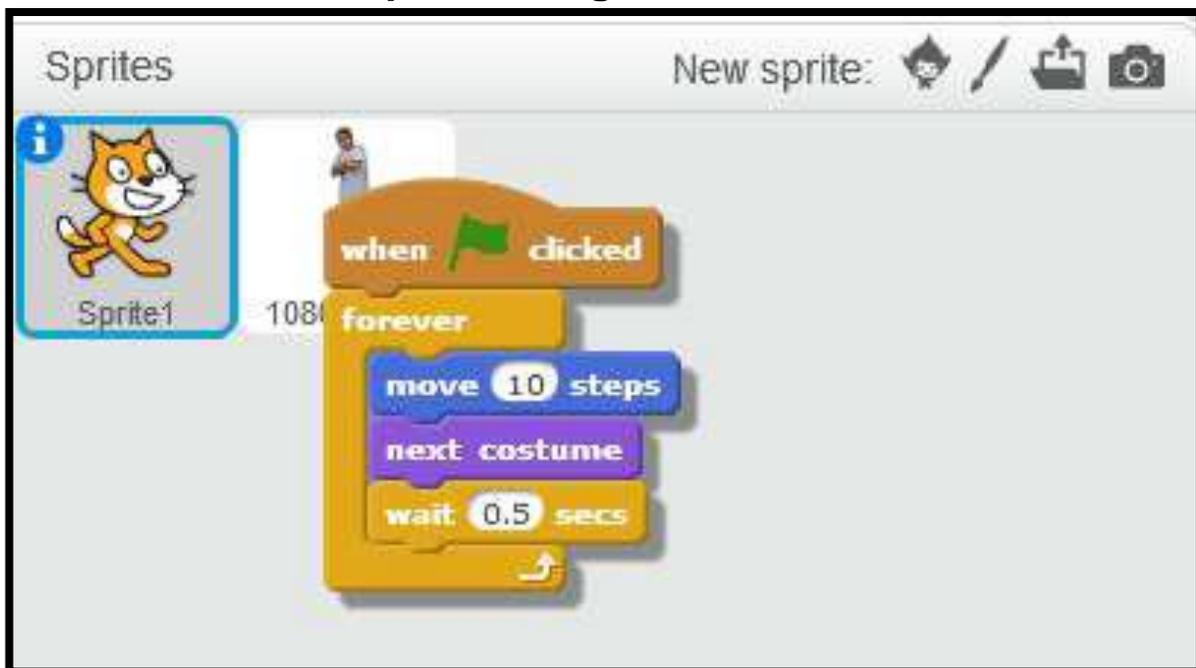
1



2



- We can use this script to change costumes.



1-When flag clicked play the script.

2-Put *forever* block

3-Inside the *forever* block, put *move 10 steps*

3-Switch on *next costum*.

4-*Wait 0.5 seconds* and repeat again all the script.

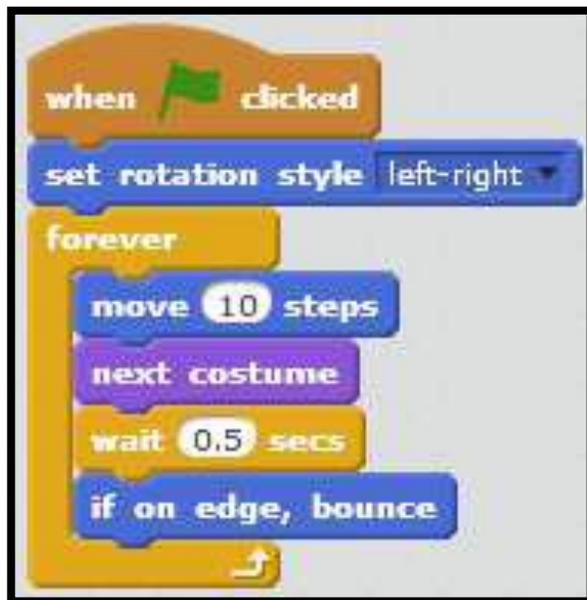
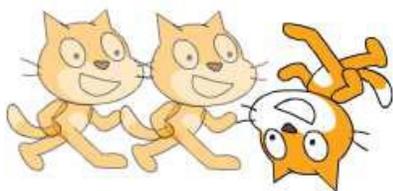
To prevent sprite from leaving the stage, we can use the **bounce script block** in the **move group**.

if on edge, bounce

To bounce in the same direction use the rotation style from the motion group

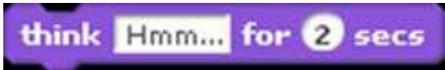


Example:



Looks blocks

Most important scripts in this group:

Script	Action	Description
		Display message for 2 seconds
		A message appear and not disappear
		Display a think message for 2 seconds

		<p>The activated sprite appears on the stage</p>
		<p>The activated sprite will disappear from the stage</p>
		<p>Make coloring and custom effects on sprite</p>
		<p>Clear any effect from the sprite</p>

Different sprite effects (colors & customs)

We can change the appearance (style) & the color of the sprite using this script.



Clearing the effects

We can clear all effects using this script



Stopping the script

We can stop all scripts using this script.



Worksheet 8

1-Put (√) or (×):

- 1-It's available to add a picture from file as a backdrop ()
- 2-All sprites have several customs. ()
- 3-Arranging the script blocks does not affect the result in any project ()
- 4-We can't control the direction of rotation of the sprite during designing the project. ()

2-Match the following blocks with its use:

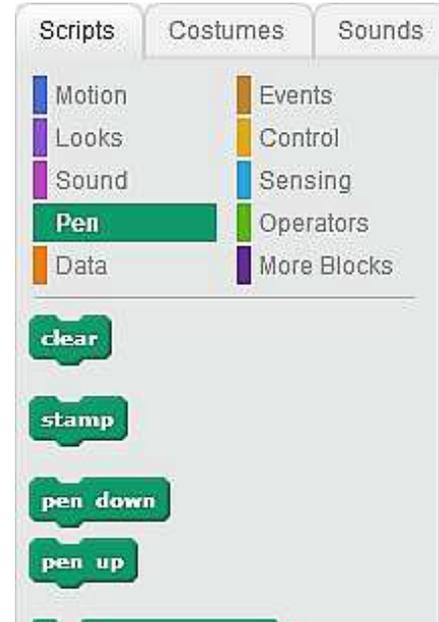
1			Hiding a sprite
2			Hide the sprite
3			Say Hello for 2 seconds only
4			Show the sprite
5			Say Hello and stop

Using pen & Voice Codes

Pen blocks:

It's very important scripts in the educational Projects.

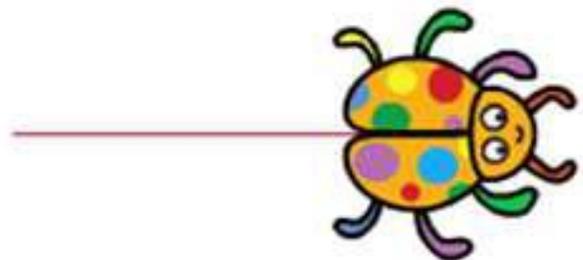
It can be used to make the sprite draw lines and Color it during its movement.



Some pen scripts:

Block	Action
	Putting the pen down, the sprite drawing a line
	Putting the pen up. The sprite move without painting anything.
	Choose a color for a pen
	Clearing any lines on the stage

Example:



We can change the line thickness by dragging and you can modify the value of the thickness

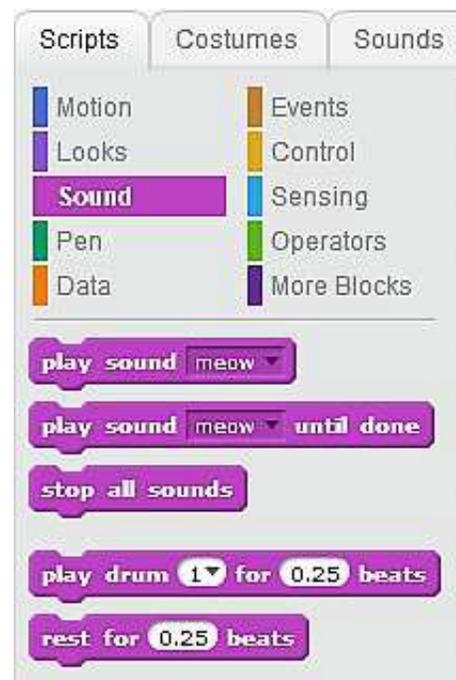
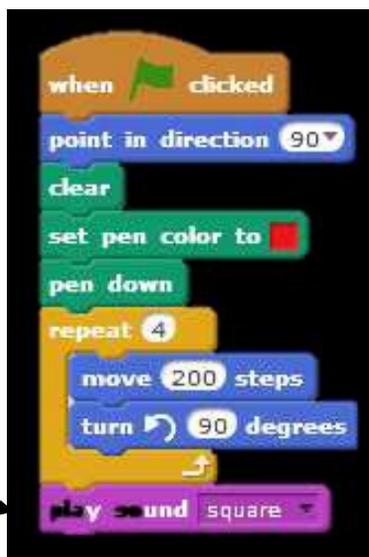
Sound blocks:

Adding sounds to projects brightness, scratch has several kinds of sounds.

We can add sounds by several ways:

- 1-Import it from the library.
- 2-Record it using microphone.

We can add the sound block in the script like that.



Worksheet 9

1-List the ways we can use to add a sound to the script:

1-.....

2-.....

2-Circle the pen blocks in the following script:

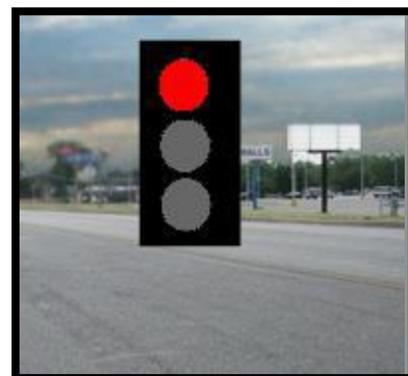
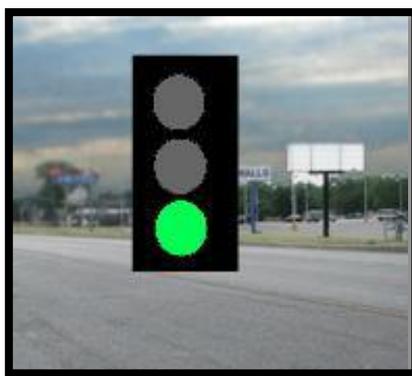
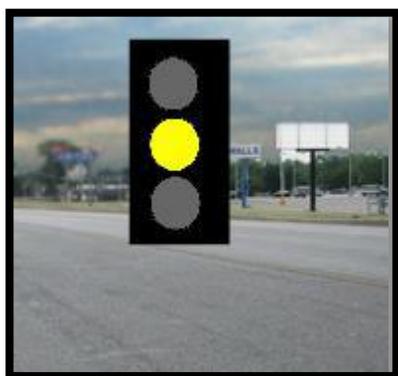


Lesson 10

Project

Project no 1:

Design a traffic lights that it can light in sequence like that.

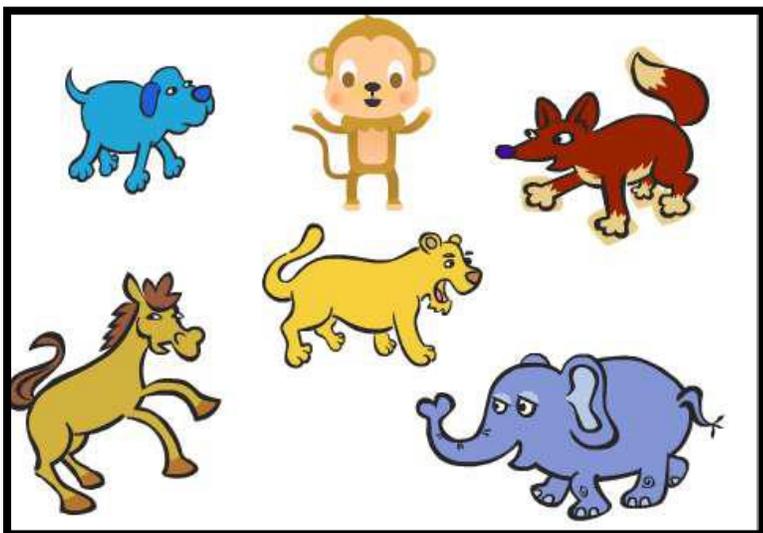


Project instructions:

- 1-Draw the sprite (traffic).
- 2-Design more than one custom.
- 3-Put a suitable backdrop.
- 4-Collect the blocks which do the project.

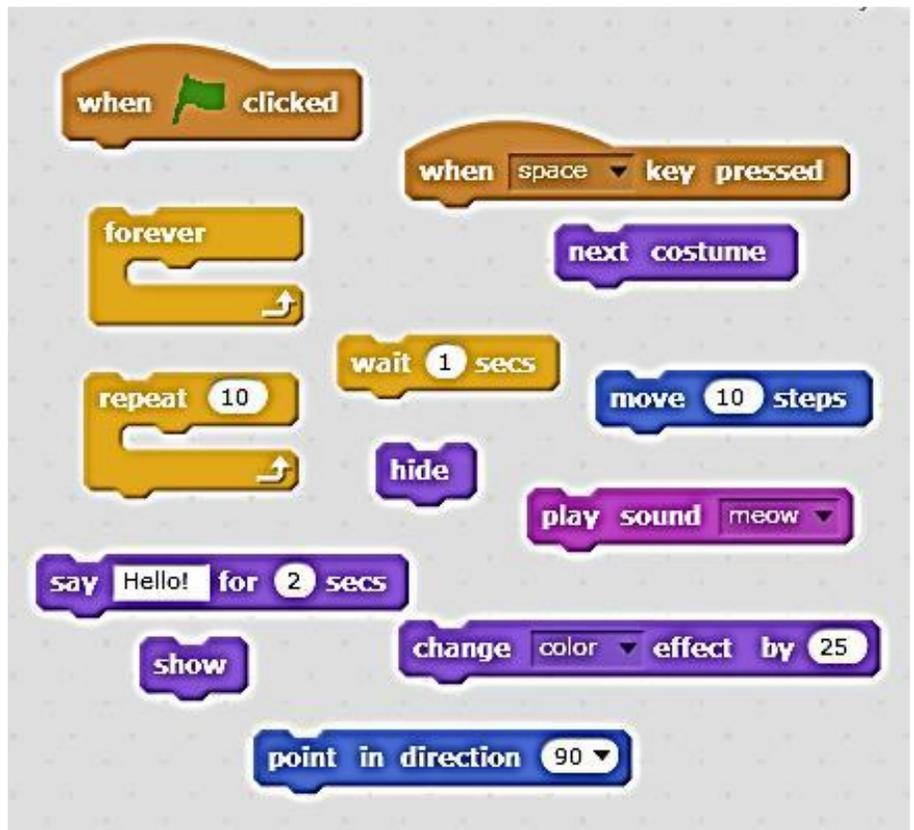
Project no 2:

Design a short story between some animals



Project instructions:

You can use these blocks



Practical Revision sheet

A-Write steps to search for the word "Computer" in google engine:

- 1- Open google engine www.google.com.
- 2- Write a word "computer" inside the search bar.
- 3- Click ENTER button.

B-Write Steps to create an account on Google.

- 1-Open Google website (Engine).
- 2-Click on Gmail at the top of the page.
- 3-Click on Create new account
- 4-Fill in the required information at the webpage which appear
- 5-Activate the account by clicking on next step.

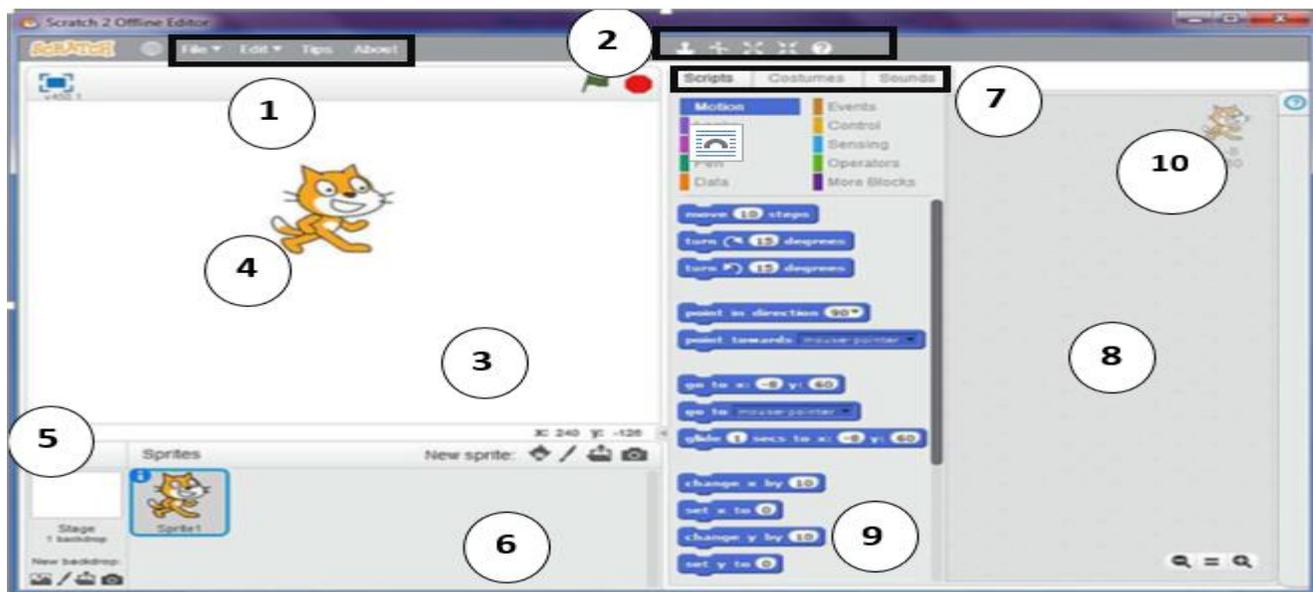
C-To use one of the services of cloud computing:

- 1- Open your account on Google.
- 2- Click on Google Drive.

D-To create a new document on cloud computing.

- 1- Click on new
- 2- Choose Google Docs.
- 3- A new document will be created.
- 4- Name the document.
- 5- Write a text inside the document

E-Write what the numbers refer to:



It consists of:

- 1- Menu bar
- 2- Tool bar
- 3- Stage
- 4- Sprite
- 5- Background
- 6- Sprites region
- 7- (Script, sounds, costumes) tabs.
- 8- Script area
- 9- Blocks area.
- 10- XY stage.

Scratch,

F- How to repeat a motion for a number of scripts:

- 1- From blocks control group choose repeat.
- 2- Drag the repeat block in the script area.
- 3- You can modify the waiting time.

G-Write steps to save project in scratch:

- 1- From file menu select **save as**
- 2- Choose the location that you want to save in.
- 3- Write the file name.

H-How to open a new project and a saved it?

- 1- Open file menu.
- 2- Select new
- 3- Perform your project
- 4- Open file menu
- 5- Select save.

I- How to control in sprite motion using arrows

- 1- Add sprite to the stage.
- 2- Double click on it to enter script area.
- 3- Select the script "When..Clicked"
- 4- Select the options of arrows from list.
- 5- Build the script.

J- Write the name of each icon from the following:

1	Decreasing the sprite volume	
2	Duplication of sprites	
3	Increasing the sprite volume	
4	Deleting the sprite	
5	Sprite Help	

K-Steps to add a backdrop to stage:

- 1- Click on backdrop.
- 2- Choose one of four ways to add it.
 - a. Choose it from library
 - b. Draw it with paint tools.
 - c. Import it from the computer.
 - d. Using camera to take a picture.

L- Steps to add new customs for the same sprite:

- 1-Activate the sprite by double click on it.
- 2-Click on custom label.
- 3-Click on import to import the customs.

M- Most important scripts:

Script	Action	Description
		Display message for 2 seconds
		A message appear and not disappear
		Display a think message for 2 seconds
		The activated sprite appears on the stage
		The activated sprite will disappear from the stage
		Make coloring and custom effects on sprite
		Clear any effect from the sprite

Best Wishes.....Mr. Mahmoud Saeed