Welcome to Mission Mars

Text Module – Part 1/2

MODULE 2

Problem of Communication between Machines & Humans

Humans speak & understand English & Decimal Nums only. Apples - 48

Machines only speak & understand 0 & 1. 1001 1100 1100 1110 0010 0111

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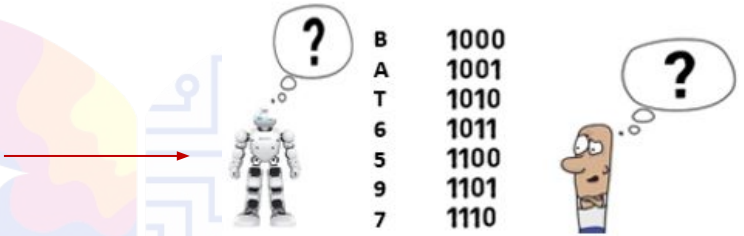
This language of 0 & 1
that machines understand
is called Binary.

Diagrammatically:

The Problem is.



Thus both are unable to understand each other.

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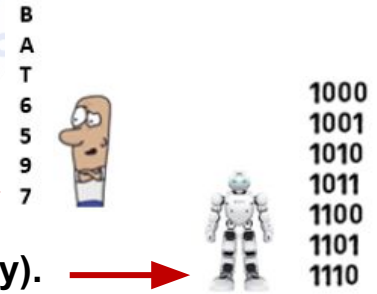
Solving the Communication Problem

To be able to talk to machines, we must:

- **Convert** our instructions in English.
- To instructions in machine languages (Binary).



Text Module will Help us communicate with one another

during Mission Mars

Any Idea What is Text Module?

It is a module using which a spr  or a Ro 

Can

- Talk to us in mission control.
- Talk to one another.
- Express what they are thinking.

Is it not similar to your Comics?

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So learning the text module will not only help in Mission Mars

It will help you make Comics, Stories books Wall Magazines etc

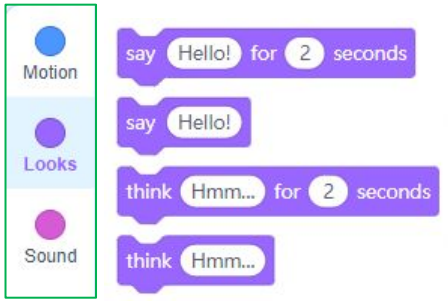
for your school

So Want to learn the Text Module?

Blocks used for text messaging

Messaging is controlled by these four block statements.

They fall in the category of Looks Blocks.



Out of these:

- First two are for Talking & Hearing.
- Next two are for Thinking.

Coding Project No 1

E

Coding a simple Text Message:

Code 01. Basic text message from a Sprite.

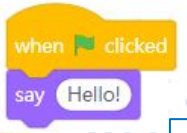
The story is: *When green flag is clicked, Mr Panda says "Hello!"*

Coding steps:

1. **Drag & drop the Basic text (say) block.** 

2. **Add a trigger on top.** 

1. Code is now complete.



2. Now run the code on the stage.

Since Mr Panda cannot speak, his voice appears as a voice bubble Which we can read (akin to hearing).

Who will show me this practically?

Coding Project No 2

E

Code 02. More then one message from a Sprite.

The story is: ***When Green Flag Clicked, Mr Panda gives three messages:***

- ***"Hello!"***
- ***"My name is Panda Jr"***
- ***"I am learning Scratch Based Coding"***

Coding steps:

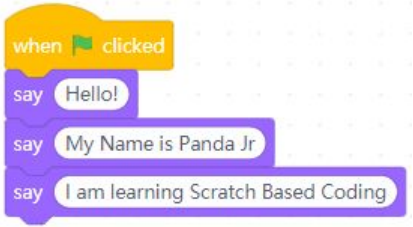
1. **Drag & drop first message statement.**

2. **Drag & drop same statement below the first. Change its text.**
   This is done by clicking on white roundel.

3. **Drag & drop one more statement below the second. Change its text also.**

Now add the trigger & the code is complete:

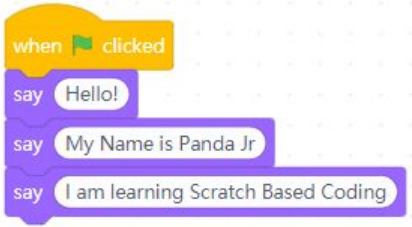
Now run & see the result.



What are you likely to notice?

You will see that:

- **It had three voice bubbles (lines 2 to 4).**

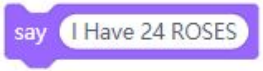


- **However, when run, only last voice bubble showed up.**

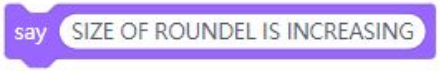
Let us now see this practically

At this stage note the following points:

- ✔ Text could be Alphabets or nums.
- ✔ Alphabets could be all Caps or a mix.



- ✔ **There is no limit** to the length of text or num of digits that you can insert.
- ✔ Size of roundel will keep increasing.



Coding Project No 3

E

Code 03. Resolving the Voice Bubble Problem.

In reality, when the code is run all three bubbles appear.
However, they appear one after the other so fast
that you can only see the last one.

To resolve this:

- We need to use this block statement: 

- It stipulates the time in seconds
  for which the voice bubble should be visible.

Using this, the same code now is:

Now if run, It will execute alright.

Note: The time to be set in the roundel
Should be a little more than the time, one will require to read the text.

Let us now see it Practically.

Coding Project No 4

Code 04. Alternate method of resolving the Voice Bubble Problem.

Instead of using 

We can use 

Along with 

Here also we must stipulate the time for wait.

This time will depend on the time a person would take to read the contents of the voice bubble.

Now Make & Try this yourself

Coding Project No 5

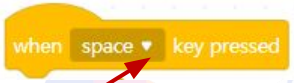
E

Code 05. Changing Trigger.

"The story is same as for Code 4, except that now the trigger is When Up key Pressed"

Coding Steps:

- An event block with Up Arrow does not appear in any block statement.
- However, we have an event when space key pressed



- This has an inverted white triangle next to word space.

When you click on this

A multi choice drop down appears.

In this dropdown, select the new trigger.

Required block statement is ready.
& the dropdown disappears.

This 

Can now be used like any other block statement.

This selection can be done in the block area or in the script area.

The final code looks like this:

Try doing this yourself.

Who will show this to me?

Note 1: We have 42 options to trigger codes. See them all.

Note 2: Presence of white triangle means the block has dropdowns.

Coding Project No 6

Code 06. Coding the Think Bubble.

“In this we are going to repeat project 4 with some text changes using the think bubble instead of the voice bubble”

This project is easy.

Its final code is:

This is called a Four Line Code.

Try doing this yourself.

Who will show this to me?

Coding Project No 7

E

Code 07. Repeating the message in same code.

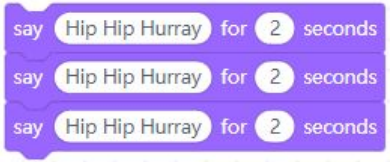
“In this we are going to code the famous –
Three cheers for Team Mission Mars, Hip Hip Hurray”

Method 1.

Use the say block

Drag & drop it three times

& change the text each time.



Add a trigger & run the code.

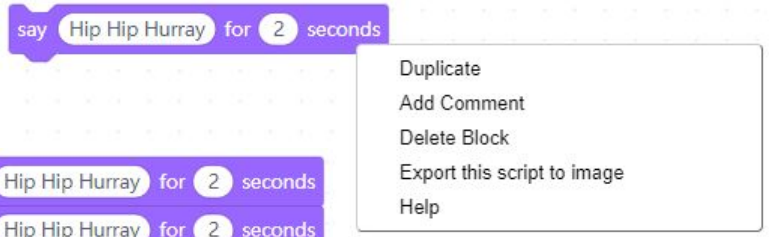
Try doing this yourself.

Method 2.

Click on Hello

Change the text.

Right click on blue portion.
Drop down appears.

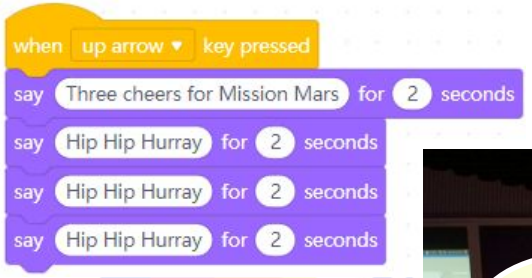


Select duplicate & enter.
It gets added below first.

Repeat for the third.

Practice Duplication a few times.

Final Code is:



Note in this code:

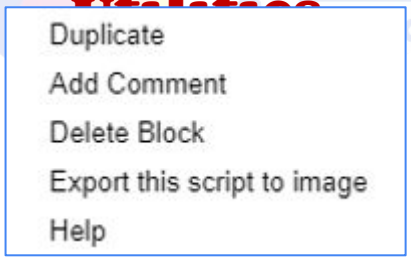
- **Rocket will be one sprite.**
- **Mission control will be the other.**

Both will be coded separately.
Voice bubble of both will run separate.

- **Bubble for rocket will run first.**
- **Bubble for mission control next.**

Do this at Home.

Understanding Other Coding Utilities



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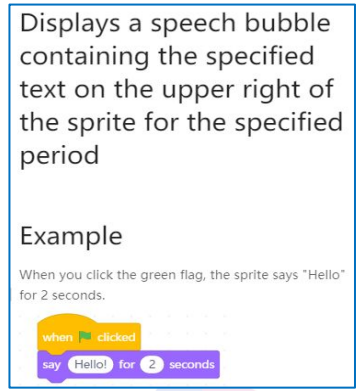
1. Help Utility

Clicking on help shows this window.
It is the Help Utility.



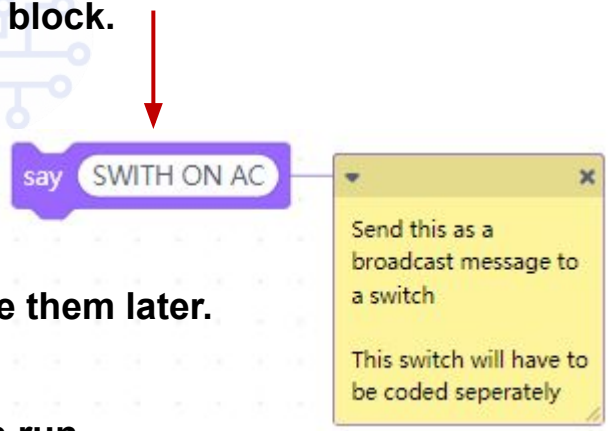
This utility offers a good method for children to learn about the function of the selected blocks on their own.

Try it once yourself.

2. Comment Utility

Clicking on comment, opens the Comment Utility.
It enables us to add a comment to any block.

Comments give others an idea of what the coder had in mind when he made that block.



Do not worry at this stage. We shall use them later.

They also help de-bugging.
They are ignored by the code when it is run.

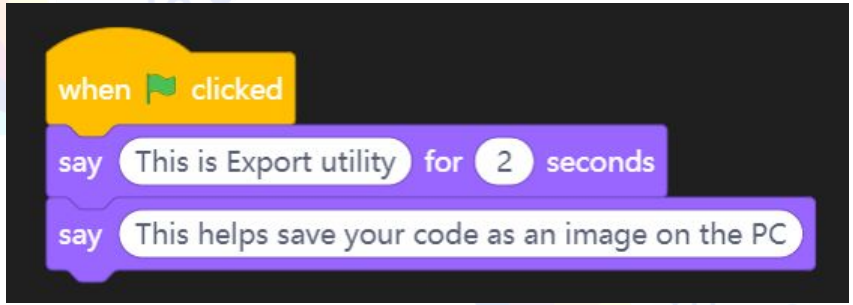
Try it once yourself.

3. Export Script

This is another useful utility.

Click on any part of the code other than the text.
Select export the script option.
Define path & location.
Give a name & select save

It gets saved on the PC as an image.



4. Delete Utility

This is self explanatory.

It however has an easier method of block dropping in the bin.

Consolidation Project:

The project story is:

- *There is a boy (boy 2) walking down a street (street4).*
- *He is thinking:*
  - ✔ *"I have a long way to go"*
  - ✔ *"It will be nice if I meet a friend"*
    - *As he is thinking, he meets a friend. They start talking:*
      - ✔ *Hello how are you.*
      - ✔ *I was going to the market. Want to come along?*
      - ✔ *Even I have some work in the market. But tell me which market are you going.*
      - ✔ *Is it City Market.*

Now Code the project. Who will show?

As Part of your homework:

Build the story further as per your own imagination. Ex:

- ***They reach the seaside.***
- ***They continue talking.***

Export the final code on your desktop as an image.
Take a video of your code running.
Send both on your WhatsApp group with a short message.

In your own time:

Do Glance Over lessons 2 to 7 once again

Discuss Clarifications with your buddies

Shoot query to us if still present

Code Karega India Badhega