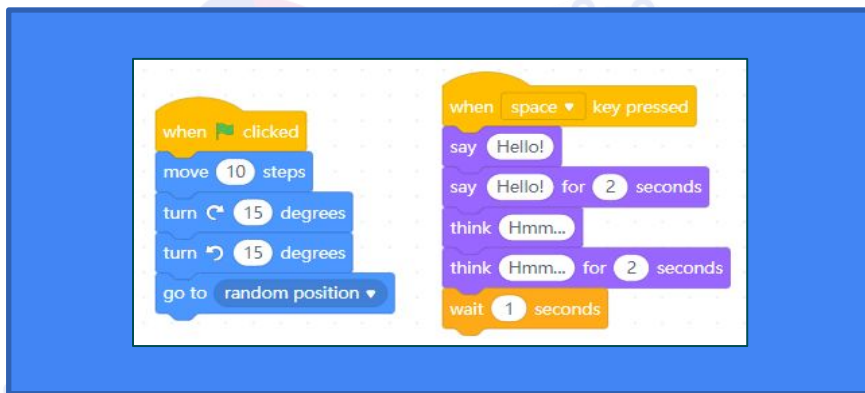




Lesson 6 – Movements & Messaging using Default Sprite

Making Codes



Saving Codes



Note for Faculty

- 1. This is the first lesson where children will actually start coding.**
- 2. Divide the class in to buddy teams if not already done.**
- 3. Nominate one student in the team as the leader & keeping changing them after each lesson.**
- 4. Likewise, nominate one team as the lead team, and tell them that their task is to ensure all in the class learn that lesson fully.**
- 5. Children must view the lesson on the projection system & follow the code making on their PC.**
- 6. This would be the procedure for all further teaching.**



Learning so Far

Till now we have learnt the following:

- Importance of learning scratch.
- Overview of Blocks & block statements.
- Role of Drag & Drop in block based coding.
- Selection of coding environment.
- Overview of mBlock 5.

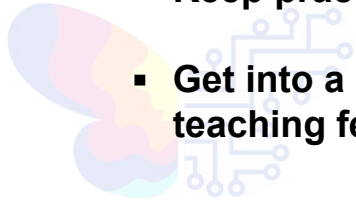
With this, we are now **ready to start coding.**





Learning Method Hereafter

- We shall lay emphasis on teaching the concepts.
- Once these are clear, learning will become easy.
- Learning will be based on mini projects/codes/programmes, that highlight the involved concept.
- Keep practicing the codes till the concepts get cleared.
- Get into a habit of sharing your codes, working in teams, and teaching fellow students.





This Lesson Learning

This lesson will be covered in three parts.

In part 1 we shall learn the use of:

- **Default sprite** on an empty stage.
- Its four basic **movements**.
- Its four basic **messaging**.





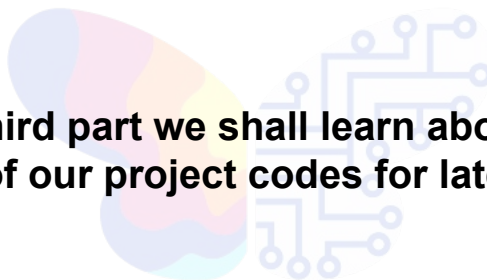
In second part we shall learn:

- Combining movements with messaging.
- Solving **bubble problem** in messaging.
- Use of **Wait** block.
- Use of different code **Triggers**.





In third part we shall learn about
saving of our project codes for later use.





Let us Start Coding

Code 001. Basic move & text.

The story is:

When green flag is clicked, Mr Panda takes 10 steps & says "Hello!"

Coding steps:

1. Drag & drop the blocks as per the story.



2. Add a trigger.



3. Run the code.

Since Mr Panda cannot speak, his voice appears as a voice bubble.



Code 002. Changing Trigger & Values.

The story is:

When space key pressed, Mr Panda takes 50 steps & says "Hello World"

Coding steps:

1. Changing this trigger is easy as a block with the new trigger (**space key**) exists.
 2. To change numbers or text click on white roundels & change.
 - ✓ Text could be in all Caps or a mix.
 - ✓ **There is no limit** to the length of text or digits in the number that you can insert.
 - ✓ Size of roundel will keep increasing as the length increases.
- Try it.





Code 003. Changing another Trigger & Moving Backwards.

The story is: *“When up arrow is pressed, Mr Panda takes 50 steps backwards, says I have moved”*

Coding Steps:

- An event block with **Up Arrow** does not appear in any block statement.
- However, event block when **space key pressed** has an **inverted white triangle** next to it.





When you click on this a drop down appears. Select the new trigger. Required statement is ready.

The code looks like this:



Note 1: We have 42 Options to trigger codes. *See all.*

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



Code 004. Adding multiple Voice Bubbles.

The story is: *“When down arrow is pressed, Mr Panda takes 50 steps, says I Have moved. He then turns 15 degrees & says HOW WAS THAT”*

It's code is as shown:

Now run & see the result.



Its run gives us an important learning:

- It has two voice bubbles (lines 3 & 5).
- When run, only the last voice bubble show up.
- This is called - **Voice Bubble Problem**.



Code 005. Resolving the Voice Bubble Problem.

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

To resolve this we need to use this block statement: →

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





You can also do this by using  Block

In this case you 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.

Try this yourself. Best is to try with a long text in line 3 of the code.





Code 006. Using the Think Bubble.

“In this we are going to repeat project 4 & 5 using the think bubble instead of the voice bubble”

This project is easy. Kindly try it yourself.

Projects using voice & think bubble, will later **help you make stories, comics & plays.**





Saving of Project Codes

Projects are made with the aim of learning, sharing & their later reuse.

For this they need to be **saved**. mBlock 5 gives us two saving options

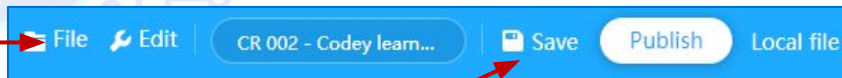
- **Save on Web.**
- **Save on PC .**

In this menu bar:

- File gives option to **save on PC**.

It also gives us the **Save as** option.

- To **save on the web**, we need to use this.





Procedure for saving on PC.

To save locally on PC:

- Go to file on menu bar.
- In dropdown select **Save to your computer.**
- It asks for **saving location.**
- Specify location & give the code a **name.**
- Code gets saved on PC.



Now try it yourself.





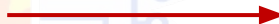
Procedure for saving on Web.

To save on web:

- Select save.



This window opens.



It gives two log in option:

- log in with Makeblock account.
- Or Log in with Google account.





In case you do not have a Makeblock account

Create one by selecting **Signup** shown above.

On doing so, this window appears. →

Follow the following steps:

- Enter details.
- Agree to terms & conditions.
- Create a password.
- Select **Get Code**. A verification code will come on you email.
- Enter the code in given box.
- Click on sign up.

makeblock

Login Signup

Email

I'm 16 or above

I'm under 16

Your Makeblock account is created & ready to use.



Once the account is created follow the steps:

- Select login.
- To save the project, click on Save.
 - ✓ It asks for name.
 - ✓ Give it a name.
 - ✓ The project will get saved.





Applicability of the Saving Procedures.

These two saving procedures apply to:

- Saving of projects made using **sprites**.
- Saving of sprites, backdrops & sounds made for **my library**.
- Saving of projects made using **devices**.





Brief Recap

In this lesson we have learnt two **concepts**:

Concept 1 – Making Changes to Blocks.

- Some blocks have no changeable.
- Some have white roundels containing numbers or text. These numbers & text can be changed.
- Some have inverted white triangles. These contain dropdowns that give options to make more block statements.





Concept 2 – Saving of Codes.

- We have two options to save our codes.
- On PC or web.
- Both are executed from the menu bar.
- Saving on PC is most used.





To Consolidate

1. Do all the six projects yourself using different figures. **Save on PC.**
2. Repeat by making changes and **Save on Web.**
3. **Share** with friends.





End of Lesson 6



Code Karega India Badhega