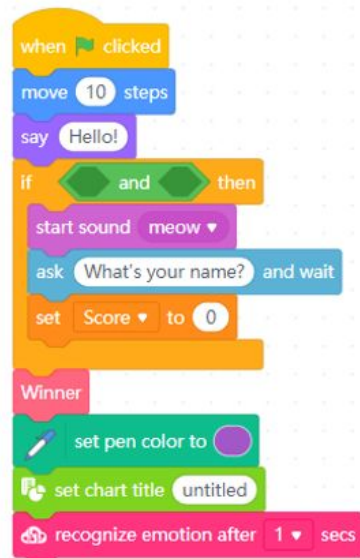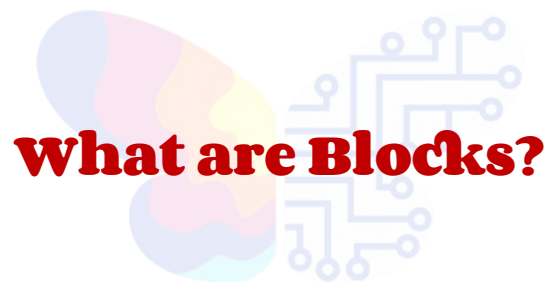Lesson 3

World of Blocks
&
Block Statements

What are Blocks?

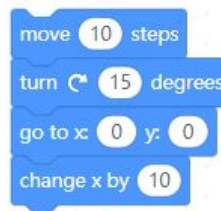**BLOCKs** signify

a **Series** or a **Category of** Similar Actions

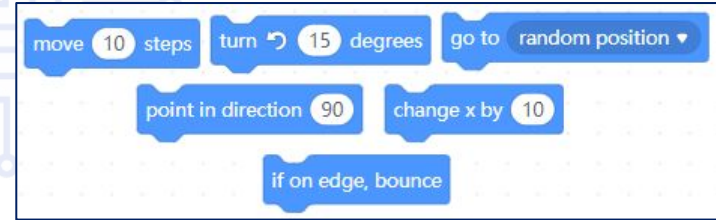that can be executed by Rohan

```
move 10 steps
turn ↻ 15 degrees
go to x: 0 y: 0
change x by 10
```

For ex:

MOTION BLOCKs will control all his **Movements** on the stage

In the SW we use for coding:

**Category of motion blocks
is represented by a small blue roundel**

Blocks of different Categories are of different colours
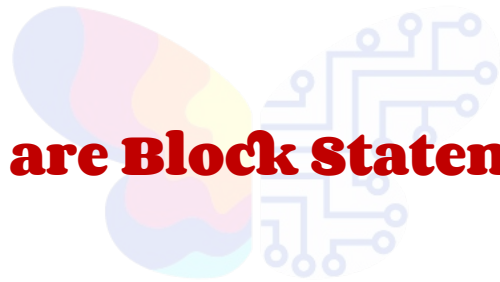
Nine most common block categories are:

Motion Sound Control Operators

Looks Events Sensing Variables My Blocks

We have many more called extensions

What are Block Statements ?

All block categories:

- **Consist of text, nums & symbols**
- **Written on the blocks in English** ⟶

move 10 steps

These are called Block Statements
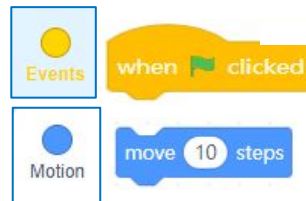
Block statements:

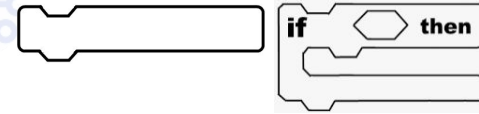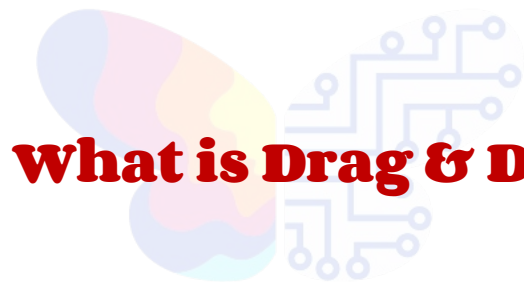**Carry the colour of the parent block**

Another classification of blocks:

Is by their shapes

They are of different shapes

What is Drag & Drop

To Code:

- We **Select** a block statement in **Block Area**.

- **Drag** it from the block area & **Drop** it in the **Script Area**

This process is called Drag & Drop

Blocks are dropped:

- One below the other.
- In accordance with the story

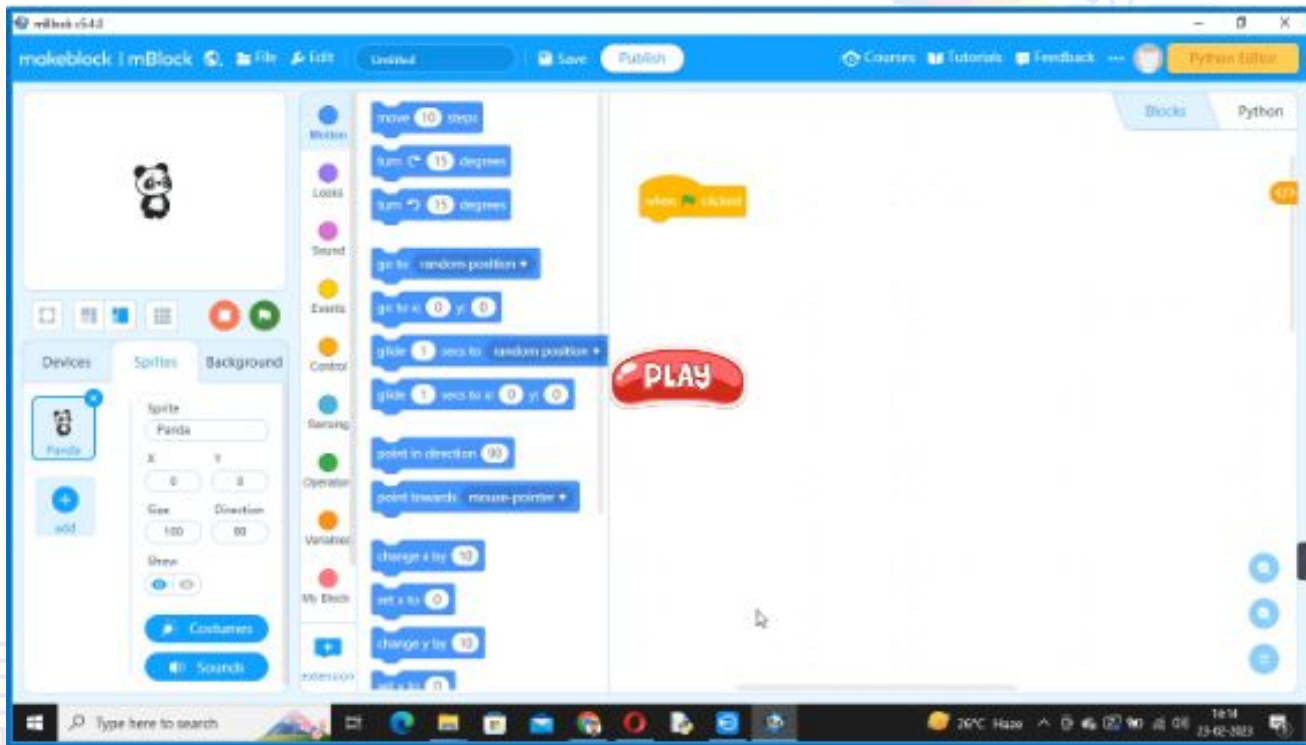**Kindly see the demo of dropping & removing of blocks ahead:**

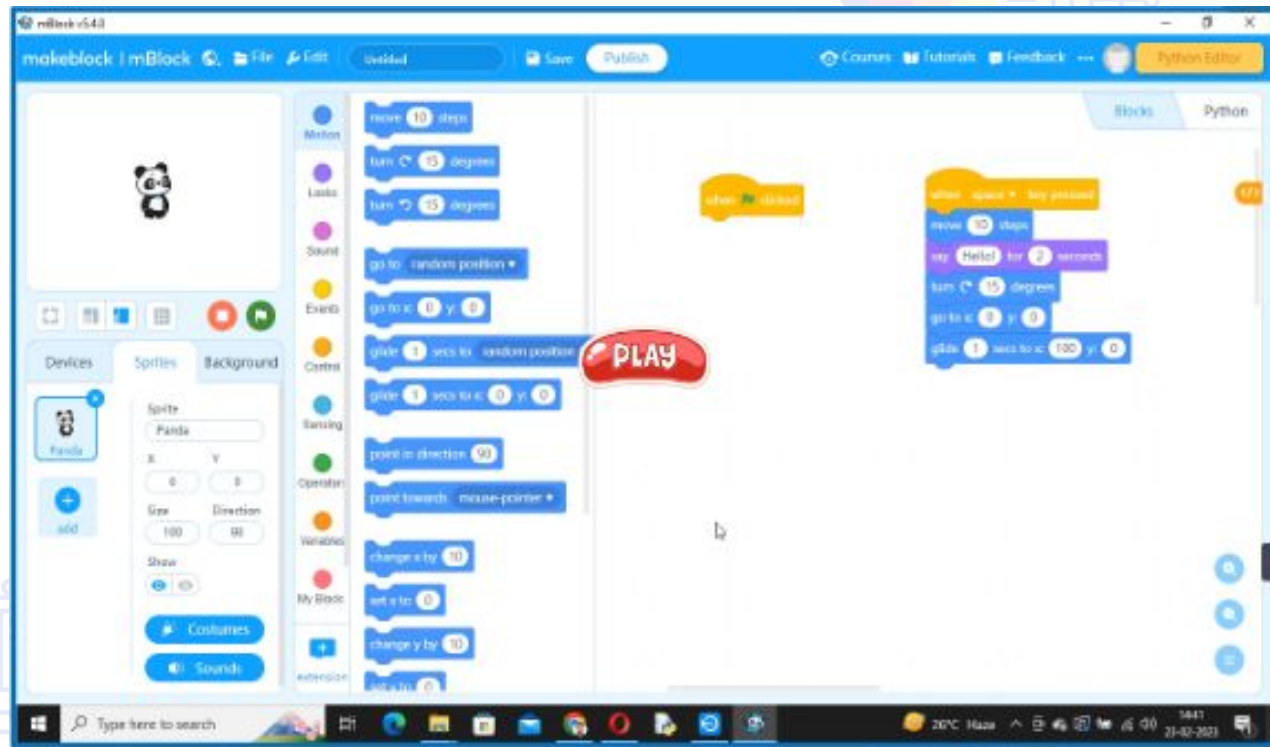# Demonstration Videos – of Drag & Drop

Adding Two Blocks

Adding more blocks to make a stack

Removing last block of a stack

Removing a block from inside the stack

BDS CONNECT

This method of coding is called:

- **Block Based Coding**
- **or Block Based Coding Language**

It was developed by MIT, & given the name →

Scratch is designed for teaching coding fundamentals to children as young as six year old
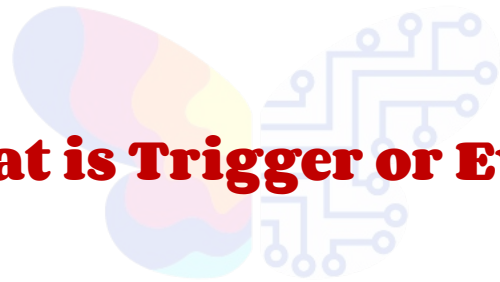
In Scratch, we visually:

- Select the blocks.
- Then drag & drag to code.

Thus, it is also called Visual Coding Language

What is Trigger or Event

Every code starts with an **EVENT**
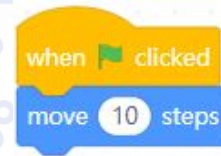

when ⚑ clicked

This **TRIGGERS** the start of **ACTIONS**
to be performed by that Code.
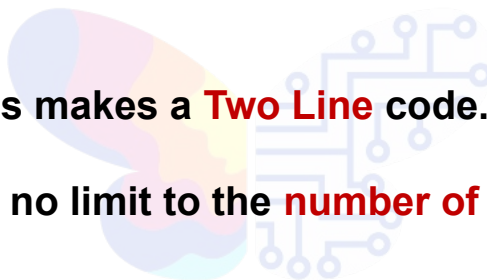
In this example:

- **First line is the trigger**
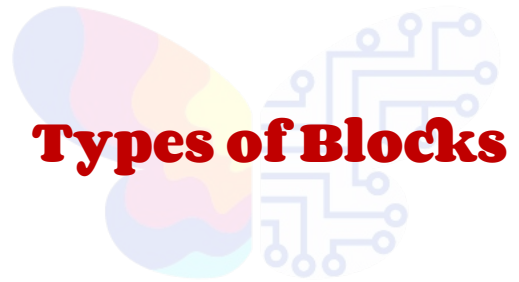- **Second line is the action**

This thus makes a **Two Line** code.

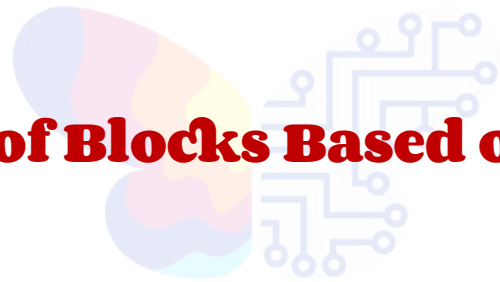There is no limit to the **number of lines** in a code.

Types of Blocks

Blocks are classified based on:
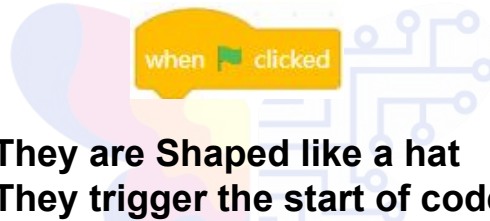
- **Their Shape.**

- **Their Function.**

Types of Blocks Based on Shape

Hat Blocks

- They are Shaped like a hat
- They trigger the start of code
- Other blocks come below it
- We have 7 of them

At this stage just focus on the shape & colour

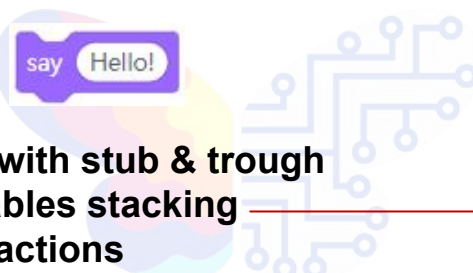Rest you will understand as you journey ahead

BDS CONNECT

Stack Blocks

- Shaped with stub & trough
- This enables stacking
- Control actions
- Have a big range in multiple categories

Control Blocks

- Shaped like a C
- Stack blocks can be put in the C
- Enable codes to take decisions
- Make loops
- Have five of them

Cap Blocks

- Plain edge at the bottom
- End running of code
- Have three of them

Reporter Blocks

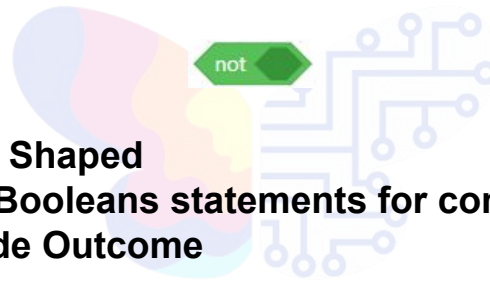- **Oval Shaped**
- **Report Values**
- **Compare Values**

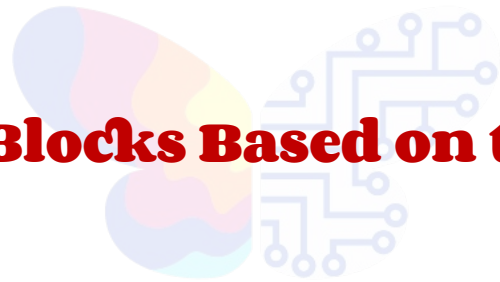Since they piggyback on other blocks also called **Piggy Back** Blocks

Boolean Blocks

- **Hexa Shaped**
- **Add Booleans statements for comparison**
- **Decide Outcome**

Types of Blocks Based on their Functions

Code Triggers

- Belong to Hat category
- Starts running of the code Stacked below them

Run Controllers

- **Belong to Control category**
- **Controls running of the script made using other blocks**

Command Blocks

- Belong to Stack category
- Provide the statements to give commands for actions to be taken

Function blocks

- Belong to piggy back category
- On their own they make no code line
- Reports a value
- Decides an outcome

To Consolidate

1. Draw one Event Block

2. Draw one Stack Block

3. Colour them

4. Write one statement on top of each

End of Lesson 3

Code Karega India Badhega