



Scratch Workshop 2018

Create not just use technology!

Introduction

- Introduction the Scratch way! :) - <https://scratch.mit.edu/projects/215984658/>

So let's begin with..

- Reflect on day 1
- Debugging
- Control and Event blocks
- Cartesian system
- Directions

Reflect on Day 1

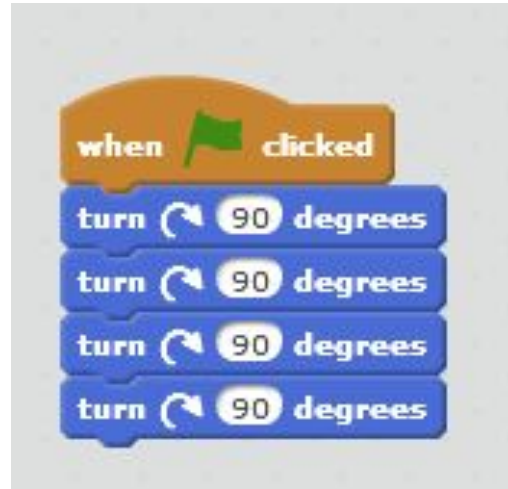
- What's the difference between algorithm and program ?
- Difference between a script and block palette?
- What is sprite ?
- What is a stage ?
- Do you remember some block types, oh and their colors ?
- What is a library in Scratch?
- Did your program have issues running at first? Some bugs around...
- Let's look at programs we created! :)

Debugging!

My program is not running :(

Why is my cat not making a square hmm..

Can you please help me find out what's wrong?



Control Blocks

- Do we see some repetition in day 1 blocks?
- Loops for carrying out same instruction more than once
 - Forever loops
 - Repeat loops
- How can the computer decide ?
 - Decision blocks if-then and if-then-else
 - Conditions
- How to play never ending music??

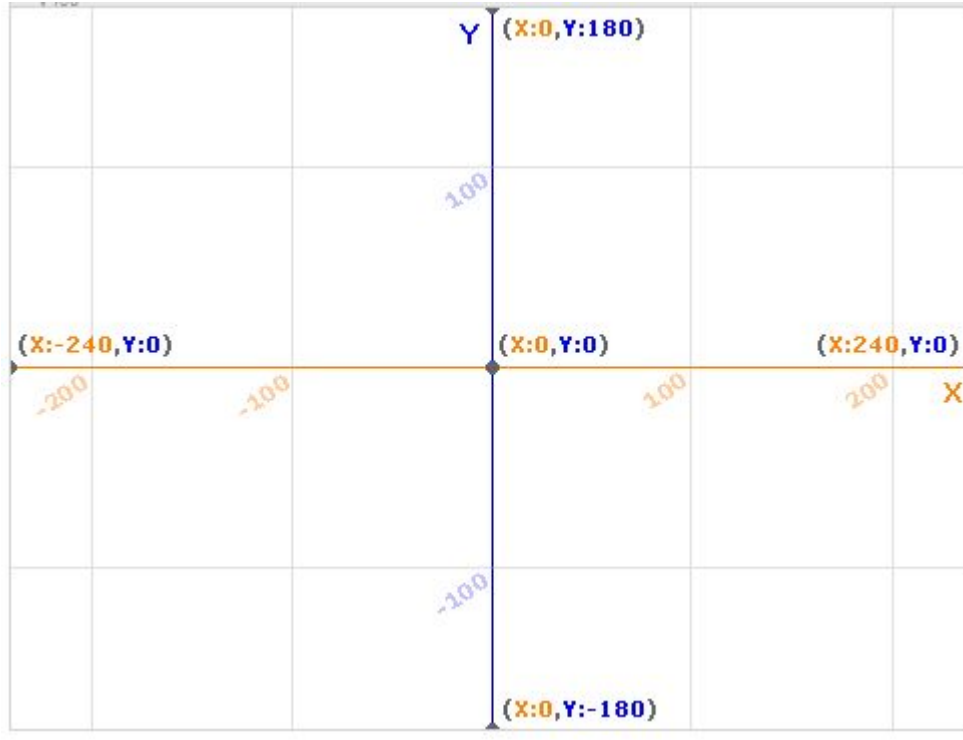


Event Blocks

- Events :
 - Action recognized by software and generated by external environment
 - Trigger to run the scripts
- Hat blocks
- Essential for all programs
- Basic blocks :
 - When Flag Clicked
 - When <key> pressed
 - When Sprite clicked



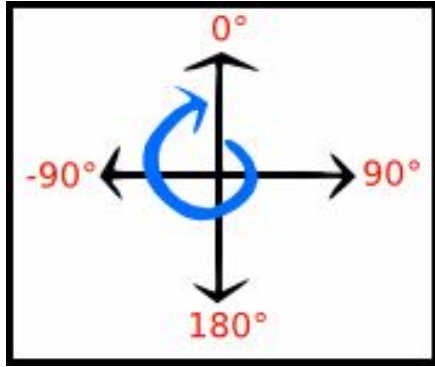
Cartesian System



A **Cartesian coordinate system** is a **coordinate system** that specifies each **point** uniquely in a **plane** by a pair of **numerical coordinates**, which are the **signed distances** to the point from two fixed **perpendicular** directed lines, measured in the same **unit of length**.

- Steps
- Width of stage is 480
- Height of stage is 360
- X axis
- Y axis
- Bounce of the stage edges
- Glide Vs Goto

Directions



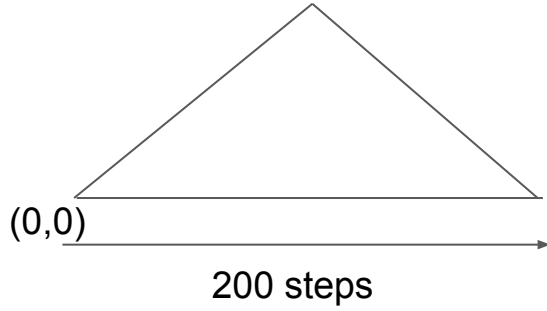
Direction : Which way to go ?

Rotational Styles :

- Full rotation
- Left-Right
- Don't rotate

Let's have fun moving around!

Draw a triangle using cartesian system



Starting from $(0,0)$

With base on X Axis

Base of length = 200 steps

Assignment 2

- Ask the cat to move in the random direction bouncing off the edges and saying “Meow”, for 50 times...
- Ask the cat to follow your cursor, stamp on the way! Nice :)

Challenge :

- Draw a house or
- Plot your initials on XY axis