

## Assignment 2: Programming in Scratch

This assignment is NOT about training you as computer programmers. It is simply an opportunity to practice computational thinking with a simple programming language and tool called [Scratch](#).

### Part 1: Getting the Hang of the Basics

- You will download the Assignment2-Part1.sb file. In the first version, clicking the green flag shows the cat slowly walking toward the dinosaur.
- You will work on adding some basic behaviour so you can get used to Scratch.

#### Technical Requirements

- In the cat sprite, add a loop and “if” control of some sort to check whether the cat has hit the dinosaur.
- When the collision occurs, broadcast a message to let all the scripts know that it happened. Also stop the script that moves the cat so it will not continue off the screen.
- In the dinosaur sprite, listen for the broadcast message. When received, the dinosaur should say “Ouch,” and begin moving to the left. He will leave a trail of red ink (using the Pen blocks) as he walks. He is allowed to walk off the screen.
- Make sure that both sprites start in the same place every time the green flag is pressed, and make sure the red trail left by the dinosaur is cleared at the beginning.

#### Marking Scheme

Marks	Requirement
2	The loop and if blocks successfully check when the cat collides with the dinosaur.
1	A broadcast is sent when the collision occurs.
1	The cat’s moving script (and thus the cat) stops after the collision.
1	The dinosaur says “Ouch” when he receives the broadcast message.
1	The dinosaur moves to the left after the collision.
2	The dinosaur leaves a trail of red ink as he moves.
2	The sprites always start in the right place when the green flag is pressed and the red ink is cleared.
<b>10</b>	<b>TOTAL</b>

## Part 2: Your Own Scratch Project

- You will create a project of your own in design in Scratch. Possibilities include but are not limited to an interactive animation or a game.
- You can look at the Examples folder in Scratch or at projects online for inspiration. While you can use them for ideas, you may NOT start with an existing project.
- You will include a README file (txt, Word, or PDF) that explains how to interact with your project, and that lists any sources of images, sounds, and so on. (That is to say that you can take images from the web to use with your sprites, but you must give credit.)

### Technical Requirements

- You must have at least five sprites in total, not including any sprites used to give instructions.
- Each sprite must have about 20 blocks or more *on average*. That means you'll have at least 100 blocks in total spread out among your sprites. Some sprites can be smarter or dumber than others.
  - Each block you drag from the left hand side, including “when” blocks and “forever” blocks, count as one.
- You must use at least three loops other than “forever” somewhere in the project.
- You must use at least three “if” or “if-else” blocks.
- You must have some form of user interaction, even if the project overall is not interactive.
- You must draw at least one of your own sprites (the rest can be sprites that come with Scratch or images from the web).
- You must incorporate at least one sound.
- You must properly make use of at least one variable.
- You must properly make use of at least one broadcast message.

### Marking Scheme

Marks	Requirement
1	The project was made from scratch and includes a readme file explaining how it works.
1	There are at least five sprites.
2	Sprites have about 20 blocks on average.
3	There are at least three loops other than “forever”.
3	There are at least three “if” or “if-else” blocks.
2	There is interesting user interaction somewhere in the project.
1	At least one sprite was hand drawn.
1	A sound is used somewhere in the project.
2	A variable has been created and is used properly somewhere in the project.
2	A broadcast message is used properly somewhere in the project.
2	The project is high quality (that is, it is interesting and creative, and looks like it took effort to create).
<b>20</b>	<b>TOTAL</b>