Pre-Practical activity (Memo)

This week you will be required to use a software known as Scratch for the first 3 tasks and additionally a C++ activity.
There's a desktop version but you may use the website instead: https://scratch.mit.edu/

Important information:

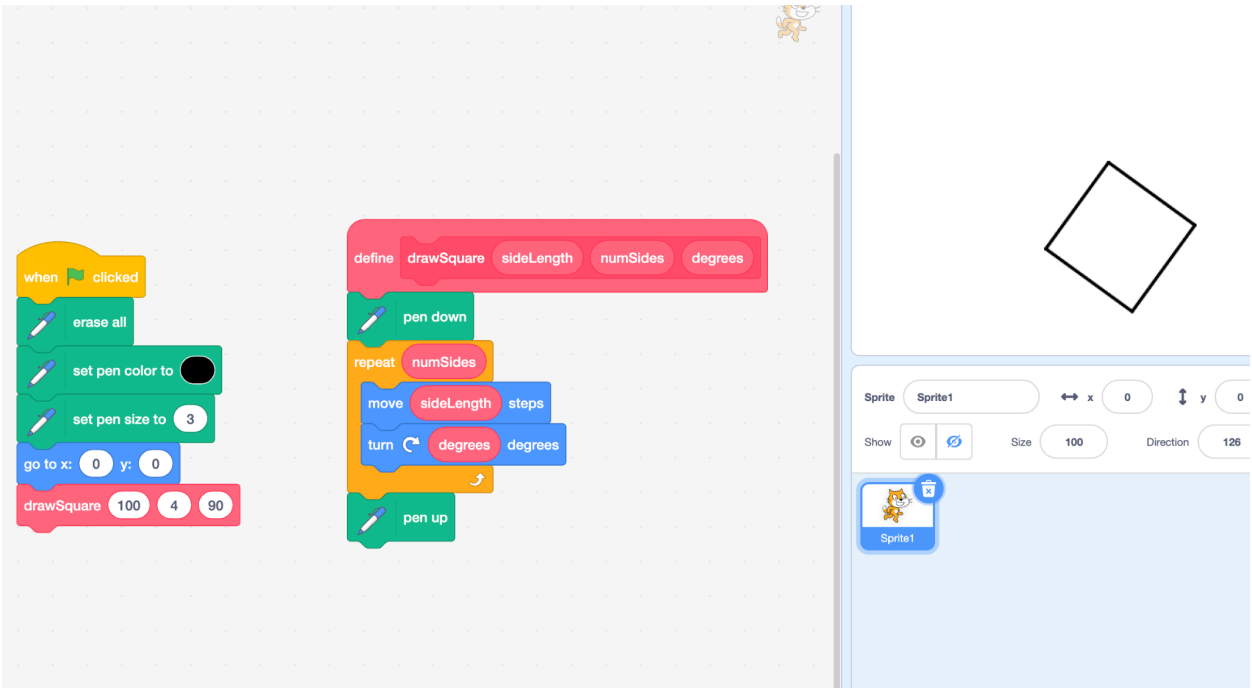
Add the Pen extension by clicking the blue "+" in the bottom-left corner of the Scratch editor.

Scratch Tasks:

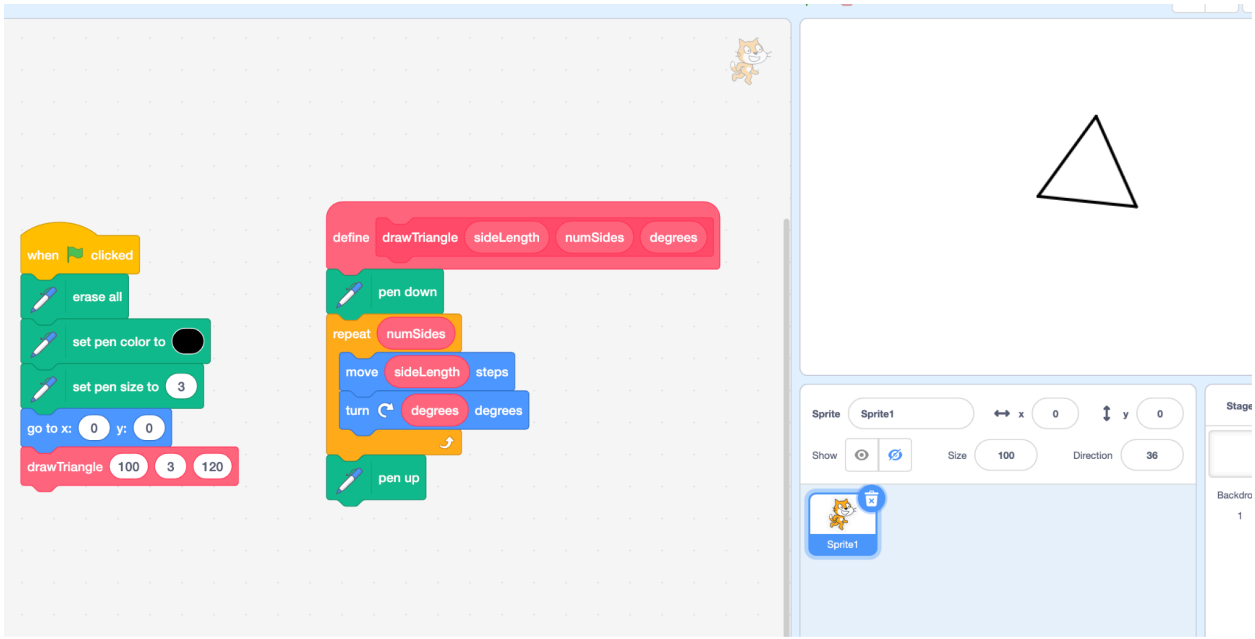
Task	Objective
Draw a Square	Create a custom block called drawSquare with a parameter called sideLength. Define the block to move the sprite in a square pattern by repeating the following actions numSides: Move the sprite forward by sideLength steps. Turn the sprite 90 degrees to form the corners of the square. Set the pen color, size, and initial position in the main script. Then call the drawSquare function with the appropriate parameters.
Draw a Triangle	Create a custom block called drawTriangle with a parameter sideLength. Define the block so that the sprite moves in a triangle pattern by repeating the following actions based on the numSides: Move the sprite forward by sideLength steps.

	Turn the sprite 120 degrees to form the corners of the triangle (since the internal angles of an equilateral triangle are 60 degrees, the external turn angle is 120 degrees).
Draw a polygon	Create a custom block called drawPolygon with parameters such as sideLength and numSides. Define the block so the sprite moves in a polygon pattern. The angle for each turn should be 360 / numSides.

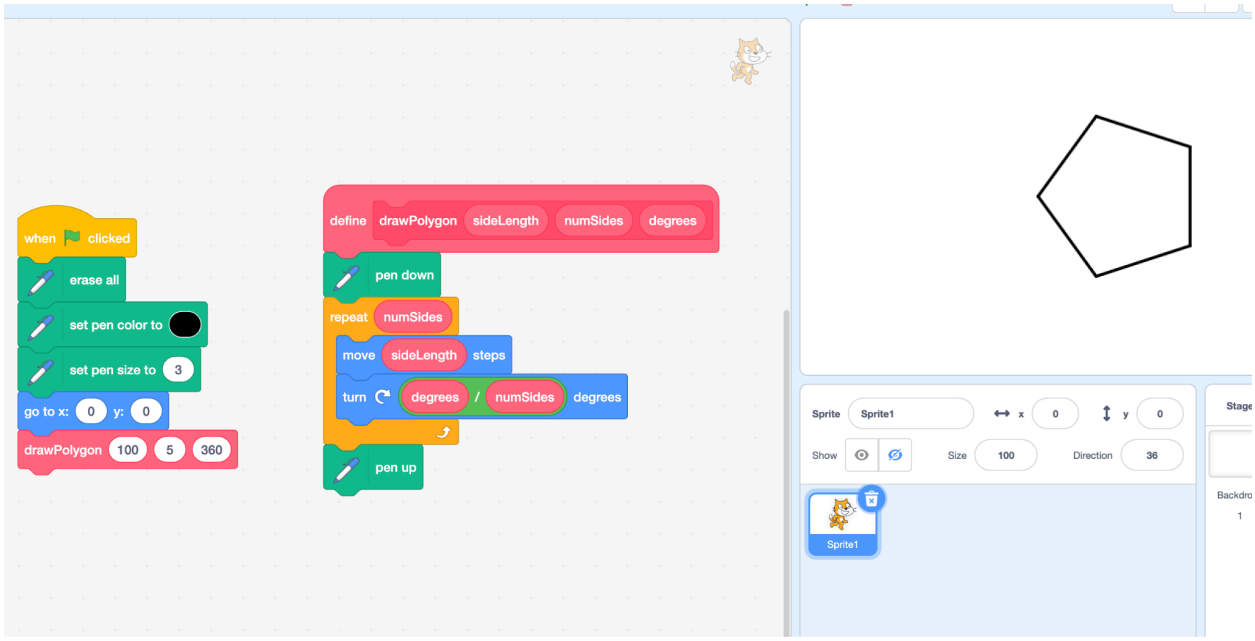
Square:



Triangle:



Polygon:



C++ Task:

You are required to write functions to calculate the area of different shapes (circle, rectangle, triangle, and square) and practice calling these functions with different inputs. Use the appropriate variables and return the values

Make use of the cmath library:

Area of a Circle	$\pi \times radius^2$
Area of a Triangle	$width \times height$
Area of a Rectangle	$\frac{1}{2} \times base \times height$
Area of a Square	$side\ length^2$

```cpp
#include <iostream>
#include <cmath>

double areaCircle(double radius) {
    return M_PI * radius * radius;
}

double areaRectangle(double width, double height) {
    return width * height;
}

double areaTriangle(double base, double height) {
    return 0.5 * base * height;
}

double areaSquare(double sideLength) {
    return sideLength * sideLength;
}

int main() {
    double radius, width, height, base, sideLength;

    std::cout << "Enter the radius of the circle: ";
    std::cin >> radius;
    std::cout << "Area of the circle: " << areaCircle(radius) << std::endl;

    std::cout << "Enter the width and height of the rectangle: ";
    std::cin >> width >> height;
    std::cout << "Area of the rectangle: " << areaRectangle(width, height)
<< std::endl;

    std::cout << "Enter the base and height of the triangle: ";
    std::cin >> base >> height;
    std::cout << "Area of the triangle: " << areaTriangle(base, height) <<
std::endl;

    std::cout << "Enter the side length of the square: ";
    std::cin >> sideLength;
    std::cout << "Area of the square: " << areaSquare(sideLength) <<
std::endl;

    return 0;
}
```