# Introduction to Classes and Objects

## Overview

In this lab, get some practice using methods on existing classes such as String and Math.

## Source folders

Student project: StudentUsingClasses

Solution project: SolutionUsingClasses

## Roadmap

There are 2 exercises in this lab. Here is a brief summary of the tasks you will perform in each exercise; more detailed instructions follow later:

1. Using the String class
2. Using the Math class

## Exercise 1: Using the String class

Open the student project, and define a new class named FunWithStrings. Define a main() method, and write some code to practise using the following capabilities of the String class:

* Defining simple string variables
* String concatenation using the + and += operators
* Input strings by using a Scanner object
* Getting the length of a string, and the character at a particular index position
* Testing two strings for equality
* Converting a string to lowercase or uppercase
* Getting a substring out of a string
* Replacing characters in a string

## Exercise 2: Using the Math class

Define a new class named FunWithMaths. Define a main() method, and write some code to practise using the following capabilities of the Math class:

* Using trigonometric methods such as sin(), cos(), etc.
* Using logarithmic methods log(), log10(), and exp().
* Using range methods min(), max(), ceil(), floor(), and round().
* Using general methods such as abs(), pow(), sqrt(), and random().