Q1

Write a program which will take you to a welcome screen which will enable you to select from the following choices:

1. Count the number of prime numbers (numbers which are not the products of two other numbers) from one to the number you input

2. Calculation of the roots of a quadratic equation (ax2+bx+c) given the coefficients of the equation

3. Calculation of the number of combinations (nCr) given n and r

The selection of the option will take you to a window where you may enter your input numbers and where the output will be displayed.

You may use only two windows in total – one for the welcome and selection, and the other for the input and output.

Q2

Write a program which will take you to a welcome screen which will enable you to calculate the area of a triangle using one of the following options:

1. Knowledge of two sides and the included angle

2. Knowledge of two angles and the side between them

3. Knowledge of the perimeter of an equilateral triangle

The selection of the option will take you to a window where you may enter your input values and where the output will be displayed.

You may use only two windows in total – one for the welcome and selection, and the other for the input and output.

Q3

Write a program which will take you to a welcome screen which will enable you to select from the following choices:

1. The sum of numbers in an arithmetic progression given the initial term, common difference and number of terms

2. The sum of squares of a set of numbers from 1 to n, given n as input

3. The arithmetic mean of a series of numbers in an arithmetic progression, given the initial term, common difference and number of terms

The selection of the option will take you to a window where you may enter your input numbers and where the output will be displayed.

You may use only two windows in total – one for the welcome and selection, and the other for the input and output.

Q4

Write a program which will take you to a welcome screen which will enable you to input the radius/radii and calculate the following:

1. Surface area & volume of a solid sphere

2. Volume of a hollow sphere

3. Surface area of a hollow hemisphere

The selection of the option will take you to a window where you may enter your input values and where the output will be displayed.

You may use only two windows in total – one for the welcome and selection, and the other for the input and output.