

2. Iterative Statements, Methods, Arrays and Recursion

- (a) Using iterative statements, write code to calculate the result of the following equation.

$$\frac{\sum_{x=1}^{100} (x^2 + 3)}{2}$$

[5]

- (b) Write a method that, when given an integer value, checks whether the value is a prime number or not. [5]

- (c) Using your previous answer, write code that fills an array with the first 20 prime numbers. [6]

- (d) Write a recursive method that takes an array of integers (named `a`) as an input parameter and finds the value of the largest element. [4]