JAVA Assignment

1. Write an application program that finds the sum of the largest and smallest *int* in the array below. The program should identify the largest and smallest number **itself**:

int[] findSum={5,3,6,8,9,1,0,7,2,4}; (5 marks)

1. Using nested loops, write code to produce the following output. (5 marks)

**NB**: Use **only two** loops.

1 2 3 4 5 6 7 8

1 2 3 4 5 6 7

1 2 3 4 5 6

1 2 3 4 5

1 2 3 4

1 2 3

1 2

1

1. Write a program that accepts a set of integers (the user decides how many) and then stores them in an array. The main method then passes these values one by one to a method called **get\_even** which returns 1 if the integer is even and 0 if it is odd. The main method should then specify which numbers were even, which ones were odd and their respective totals. It should also specify how many numbers were odd and how many were even. For example, if the user enters 25 34 56 17 14 20, the output should be: -

25 is an odd number

34 is an even number

56 is an even number

17 is an odd number

14 is an even number

20 is an even number

There is a total of 2 odd numbers and their sum is 42.

There is a total of 4 even numbers and their sum is 124.

NB: All data input and output should be done in main. **Don’t** use % any where in the main method (% can be used in the method called get\_even). (10 marks)

1. Write a program that accepts the amount of money deposited in a bank account, the annual interest rate and the target amount (The amount of money the account holder wants to have in the account after a period of time) and then calculates the number of years it will take for the money to accumulate to the targeted amount. **NB**: 1) The interest being earned is **Compound Interest**. 2) **Don’t** use the formula for calculating compound interest.

For example if the money deposited is 10000 and the target amount is 20000 and the account earns an interest rate (compound) of 10% pa, then the output should be: -

It will take 8 years for your money to reach your target.

By the end of this period, the amount in your account will be 21435.89 (10 marks)

1. Making use of **object orientation** write a program that stores and evaluates the total cost for items bought from a supermarket. The cashier should enter the following: - Product code, Price and Quantity. The total price should be evaluated as follows: -

Total cost = Price \* Quantity

If the total cost per item is more than 20,000 there is a discount of 14% on that item and a discount of 10% on an item whose total cost is between 10,000 and 20,000. No discount is given on items whose total cost is less than 10,000

**NB:** The cashier should decide how many Items he/she wants to work with. If he/she chooses 3, for example, the output should take the format shown below.

# Item Code Price Quantity Total Cost Discount Net

109 6000 4 24000 3360 20640

201 900 8 7200 0 7200

127 600 20 12000 1200 10800

The total amount payable is 38640

**NB:** Your program should have constructors (including default constructor) (10 marks)