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Semester 2 Preparation

Programming Tutorial

Question 1

a) Declare two integer variables, miles and yards, and one double variable for kilometers

b) Initialize the variables to hold the number of miles and yards in a marathon respectively (miles to 26 and yards to 385).

c) Write an expression to calculate kilometers from miles and yards.

d) Save the result of the expression in the variable kilometers.

a. Note: One mile is 1.609 kilometers. There are 1760.0 yards in a mile

Question 2

Write a Java program to add the elements of arrays A and B and store the result in a new array, C

int A[5] = 10, 20, 30, 40, 50;

int B[5] = 34, 67, 12, 89, 12;

int C[5];

Calculate A+B and store in Array C. → Compute the sum of corresponding elements in arrays A and B and store them in array C.

Example Output: **Array C: [44, 87, 42, 129, 62]**

Question 3

a) Create a class called **EvenOddNumber.**

b) It has a method called **findEvenOrOdd(int i)** to find whether a number is even or odd.

c) This method takes an integer argument and returns a boolean value.

*(Note: There is a data type called **boolean** in java which can store true/false values)*

d) Then create another class Demo with the main method and create an object from **EvenOddNumber** class.

e) Using the created object, call the **findEvenOrOdd()** method and display outputs indicating whether those are even numbers or odd numbers.

Question 4

Write a program that draws the following figures one above the other.

Question 5

Please submit your answer to the question below to Git. When committing the file, ensure that you include a meaningful commit message (e.g., "Lab01 - Question05").

Create a class called "**Calculator**" and implement three Java methods to perform the following operations.

- **add()** – add two integers pass as parameters and return the result
- **multiply()** – multiply two integers pass as parameters and return the result
- **square()** – receive an integer as a parameter and return the result after multiplying the number by itself.

Use the above methods in the Main Method to calculate the result of the following mathematical expressions:

1. $(3 * 4 + 5 * 7)^2$
2. $(4 + 7)^2 + (8 + 3)^2$