



Attempt the following questions.

№ of Questions: 3 in 2 page(s)
Total Mark: 30

Question 1:

(10 Marks)

Write a program that prompts the user to enter two integers, then displays the larger number followed by "is larger than" followed by the smaller number if applicable; otherwise, displays "The two numbers are equal".

Sample Output:

```
Enter two integers: 7 30
30 is larger than 7
```

Question 2:

(10 Marks)

Write a program that prompts the user to enter his/her weight (w) in kilograms and height (h) in meters, then displays his/her *Body Mass Index* (BMI) and the corresponding category (C).

$$BMI = \frac{w}{h^2}, C = \begin{cases} \text{Underweight} & , & BMI < 18.5 \\ \text{Normal} & , & 18.5 \leq BMI < 25 \\ \text{Overweight} & , & 25 \leq BMI < 30 \\ \text{Obese} & , & 30 \leq BMI \end{cases}$$

Sample Output:

```
Enter your weight in kilogram: 85
Enter your height in meters : 1.85
Your Body Mass Index = 24.835646 (Normal)
```

Question 3:

(10 Marks)

Write a program that prompts the user to enter the size of the side of a checkerboard, then displays a checkerboard of the given size.

Sample Output:

```
Enter the checkerboard size: 4
■ ■
■ ■
■ ■
■ ■
```

Good Luck
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```

import java.util.Scanner;
public class Question1 {
    public static void main(String[] args) {
        Scanner input = new Scanner(System.in);
        int n1, n2;
        System.out.print("Enter two integers:");
        n1 = input.nextInt();
        n2 = input.nextInt();
        if (n1 > n2) {
            System.out.printf(
                "%d is larger than %d\n", n1, n2);
        } else if (n2 > n1) {
            System.out.printf(
                "%d is larger than %d\n", n2, n1);
        } else {
            System.out.println(
                "The two numbers are equal");
        }
    }
}

```

```

import java.util.Scanner;
public class Question2 {
    public static void main(String[] args) {
        Scanner input = new Scanner(System.in);
        float w, h, BMI;
        System.out.print(
            "Enter your weight in kilogram:");
        w = input.nextFloat();
        System.out.print(
            "Enter your height in meters:");
        h = input.nextFloat();
        BMI = w / (h * h);
        System.out.printf(
            "Your Body Mass Index = %f ", BMI);
        if (BMI < 18.5) {
            System.out.println("(Underweight)");
        } else if (BMI < 25) {
            System.out.println("(Normal)");
        } else if (BMI < 30) {
            System.out.println("(Overweight)");
        } else {
            System.out.println("(Obese)");
        }
    }
}

```

```

import java.util.Scanner;
public class Question3 {
    public static void main(String[] args) {
        Scanner input = new Scanner(System.in);
        int s;
        System.out.print(
            "Enter the checkerboard size:");
        s = input.nextInt();
        int i = 0;
        while (i < s) {
            int j = 0;
            while (j < s) {
                System.out.print(
                    (i + j) % 2 == 0 ? "■" : " ");
                j++;
            }
            System.out.println();
            i++;
        }
    }
}

```