

1. Write a program called SumProductMinMax3 that prompts user for three integers. The program shall read the inputs as int; compute the sum, product, minimum and maximum of the three integers; and print the results

```
import java.util.Scanner;

public class SumProductMinMax3 {

    public static void main(String[] args) {

        Scanner obj= new Scanner(System.in);

        System.out.print("Enter the first integer: ");

        int a= obj.nextInt();

        System.out.print("Enter the second integer: ");

        int b= obj.nextInt();

        System.out.print("Enter the third integer: ");

        int c= obj.nextInt();

        int sum =a+b+c;

        int product =a*b*c;

        int min = Math.min(a,Math.min(b,c));

        int max = Math.max(a,Math.max(b,c));

        System.out.println("The Sum is : " + sum);

        System.out.println("The Product is: " + product);

        System.out.println("The Minimum is: " + min);

        System.out.println("The Maximum is: " + max);

    }

}
```

```
1 import java.util.Scanner;
2 public class SumProductMinMax3 {
3     public static void main(String[] args) {
4         Scanner obj= new Scanner(System.in);
5         System.out.print("Enter the first integer: ");
6         int a= obj.nextInt();
7         System.out.print("Enter the second integer: ");
8         int b= obj.nextInt();
9         System.out.print("Enter the third integer: ");
10        int c= obj.nextInt();
11        int sum =a+b+c;
12        int product =a*b*c;
13        int min = Math.min(a,Math.min(b,c));
14        int max = Math.max(a,Math.max(b,c));
15        System.out.println("The Sum is : " + sum);
16        System.out.println("The Product is: " + product);
17        System.out.println("The Minimum is: " + min);
18        System.out.println("The Maximum is: " + max);
19    }
20 }
21
```

```
java -cp /tmp/aFkKCT3rHf/SumProductMinMax3
Enter the first integer: 10
Enter the second integer: 8
Enter the third integer: 15
The Sum is : 33
The Product is: 1200
The Minimum is: 8
The Maximum is: 15

=== Code Execution Successful ===
```

2. Calculate BMI Using Java

The user enters his height (in inches) and weight (in pounds). The variables passed by the user are assigned to the float type. After calculating the BMI value, the value will be assigned to the appropriate range and the correct message will appear on the console. You can use the if-else-if ladder for printing the message on the console.

Intervals of BMI index:

- 16.00 or less = starvation
- 16.00-16.99 = emaciation
- 17.00-18.49 = underweight
- 18.50-22.99 = normal, low range
- 23.00-24.99 = normal high range
- 25.00-27.49 = overweight low range
- 27.50-29.99 = overweight high range
- 30.00-34.99 = 1st degree obesity
- 35.00-39.99 = 2nd degree obesity

40.00 or above = 3rd degree obesity

```
import java.util.Scanner;

public class BMICalculator {

    public static void main(String[] args) {

        Scanner obj= new Scanner(System.in);

        System.out.print("Enter your height in inches: ");

        float heightInInches = obj.nextFloat();

        System.out.print("Enter your weight in pounds: ");

        float weightInPounds = obj.nextFloat();

        float heightInMeters = heightInInches * 0.0254f;

        float weightInKilograms = weightInPounds * 0.453592f;

        float bmi = weightInKilograms / (heightInMeters * heightInMeters);

        String category=" ";

        if (bmi <= 16.00) {

            category = "starvation";

        } else if (bmi <= 16.99) {

            category = "emaciation";

        } else if (bmi <= 18.49) {

            category = "underweight";

        } else if (bmi <= 22.99) {

            category = "normal, low range";

        } else if (bmi <= 24.99) {

            category = "normal high range";

        } else if (bmi <= 27.49) {

            category = "overweight low range";

        } else if (bmi <= 29.99) {

            category = "overweight high range";

        } else if (bmi <= 34.99) {

            category = "1st degree obesity";

        } else if (bmi <= 39.99) {
```

```

        category = "2nd degree obesity";
    } else {

        category = "3rd degree obesity";
    }

    System.out.printf("Your BMI is %.2f and you are classified as: %s\n", bmi, category);
}
}

```

The screenshot displays the Programiz Online Java Compiler interface. The left sidebar contains icons for various programming languages, with Java selected. The main editor area shows a Java file named 'Main.java' containing a BMI calculator program. The program prompts the user for height in inches and weight in pounds, calculates the BMI, and classifies the user based on BMI ranges. The right panel shows the output of the program, which matches the expected results for the input values of 10 inches and 80 pounds. The status bar at the bottom indicates the system is running on a Windows machine with the date 04-08-2024.

```

1 import java.util.Scanner;
2 public class BMI Calculator {
3     public static void main(String[] args) {
4         Scanner obj = new Scanner(System.in);
5         System.out.print("Enter your height in inches: ");
6         float heightInches = obj.nextFloat();
7         System.out.print("Enter your weight in pounds: ");
8         float weightInPounds = obj.nextFloat();
9         float heightInMeters = heightInches * 0.0254f;
10        float weightInKilograms = weightInPounds * 0.453592f;
11        float bmi = weightInKilograms / (heightInMeters * heightInMeters);
12        String category = "";
13        if (bmi <= 16.00) {
14            category = "starvation";
15        } else if (bmi <= 16.99) {
16            category = "emaciation";
17        } else if (bmi <= 18.49) {
18            category = "underweight";
19        } else if (bmi <= 22.99) {
20            category = "normal, low range";
21        } else if (bmi <= 24.99) {
22            category = "normal high range";
23        } else if (bmi <= 27.49) {
24            category = "overweight low range";
25        } else if (bmi <= 29.99) {

```

Output:

```

java -cp /tmp/B08tyn1Buv/BMICalculator
Enter your height in inches: 10
Enter your weight in pounds: 80
Your BMI is 562.46 and you are classified as: 3rd degree obesity

=== Code Execution Successful ===

```

3. Write a program that will use the while loop to find the largest and smallest number from the set of 10 randomly drawn integers from 1 to 100. In this task, do not use arrays or other collections.

```
import java.util.Random;

public class Prajiith{

    public static void main(String[] args) {

        Random random = new Random();

        int smallest = Integer.MAX_VALUE;

        int largest = Integer.MIN_VALUE;

        int count = 0;

        System.out.println("The set of 10 random numbers are: ");

        while (count < 10) {

            int number = random.nextInt(100) + 1;

            System.out.print(number+"\t");

            if (number < smallest) {

                smallest = number;

            }

            if (number > largest) {

                largest = number;

            }

            count++;

        }

        System.out.println("\nSmallest number among the above set is : " + smallest);

        System.out.println("Largest number among the above set is : " + largest);

    }

}
```

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Main.java

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```
1 import java.util.Random;
2 public class Prajiith{
3     public static void main(String[] args) {
4         Random random = new Random();
5         int smallest = Integer.MAX_VALUE;
6         int largest = Integer.MIN_VALUE;
7         int count = 0;
8         System.out.println("The set of 10 random numbers are: ");
9         while (count < 10) {
10             int number = random.nextInt(100) + 1;
11             System.out.print(number+"\t");
12             if (number < smallest) {
13                 smallest = number;
14             }
15             if (number > largest) {
16                 largest = number;
17             }
18             count++;
19         }
20         System.out.println("\nSmallest number among the above set is : " +
21             smallest);
22         System.out.println("Largest number among the above set is : " + largest
23             );
24     }
25 }
```

```
java -cp /tmp/g7xA8amZ1K/Prajiith
The set of 10 random numbers are:
53 42 87 85 57 54 39 95 67 23
Smallest number among the above set is : 23
Largest number among the above set is : 95

=== Code Execution Successful ===
```

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