Introductions to JAVA

1. write a java program that declare four integer variables: a,b,c, and d. then check with if statements that check whether the sum of a and b is greater than the sum of c and d. if it's true then the message is sum of a and b is greater than c and d.

| **package** trainingtaskcompletion;  **import** java.util.Scanner;  **public** **class** FirstProgram {  **public** **static** **void** main(String[] args) {  // Create a Scanner object to read input from the user  Scanner scanner = **new** Scanner(System.***in***);  // Prompt the user to enter values for variables a, b, c, and d  System.***out***.print("Enter the value of a: ");  **int** a = scanner.nextInt();  System.***out***.print("Enter the value of b: ");  **int** b = scanner.nextInt();  System.***out***.print("Enter the value of c: ");  **int** c = scanner.nextInt();  System.***out***.print("Enter the value of d: ");  **int** d = scanner.nextInt();  // Check if the sum of a and b is greater than the sum of c and d  **if** (a + b > c + d) {  System.***out***.println("Sum of a and b is greater than c and d.");  } **else** {  System.***out***.println("Sum of a and b is not greater than c and d.");  }  // Close the scanner to release resources  scanner.close();  }  } |
| --- |

Output:-

Enter the value of a: 10

Enter the value of b: 20

Enter the value of c: 5

Enter the value of d: 10

Sum of a and b is greater than c and d.

Enter the value of a: 10

Enter the value of b: 5

Enter the value of c: 50

Enter the value of d: 20

Sum of a and b is not greater than c and d.

1. Have a variable store an integer. create an if statement to find out if its an even number Hint : Use Operator %

| **package** trainingtaskcompletion;  **import** java.util.Scanner;  **public** **class** CheckEvenNumber {  **public** **static** **void** main(String[] args) {  // Create a Scanner object to read input from the user  Scanner scanner = **new** Scanner(System.***in***);  // Prompt the user to enter an integer  System.***out***.print("Enter an integer: ");  **int** number = scanner.nextInt();  // Check if the number is even  **if** (number % 2 == 0) {  System.***out***.println(number + " is an even number.");  } **else** {  System.***out***.println(number + " is an odd number.");  }  // Close the scanner to release resources  scanner.close();  }  } |
| --- |

**Output:-**

Enter an integer: 10

10 is an even number.

Enter an integer: 122345

122345 is an odd number.

1. Write a program to print the characters from A - Z

| **package** trainingtaskcompletion;  **public** **class** CharA2Z {  **public** **static** **void** main(String[] args) {  // Iterate through characters from 'A' to 'Z'  **for** (**char** c = 'A'; c <= 'Z'; c++) {  System.***out***.print(c + " ");  }  }  } |
| --- |

**Output:-**

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

1. write a java program to get 2 numbers from the user and swap their variables without any loss of data. you can make use of additional variable for swapping. print the corresponding swapped value of the two numbers as output in the console.

| **package** trainingtaskcompletion;  **import** java.util.Scanner;  **public** **class** SwapVariables {  **public** **static** **void** main(String[] args) {  // Create a Scanner object to read input from the user  Scanner scanner = **new** Scanner(System.***in***);  // Prompt the user to enter the first number  System.***out***.print("Enter the first number: ");  **int** num1 = scanner.nextInt();  // Prompt the user to enter the second number  System.***out***.print("Enter the second number: ");  **int** num2 = scanner.nextInt();  // Print the numbers before swapping  System.***out***.println("Before swapping:");  System.***out***.println("First number: " + num1);  System.***out***.println("Second number: " + num2);  // Swap the numbers using an additional variable  **int** temp = num1;  num1 = num2;  num2 = temp;  // Print the numbers after swapping  System.***out***.println("\nAfter swapping:");  System.***out***.println("First number: " + num1);  System.***out***.println("Second number: " + num2);  // Close the scanner to release resources  scanner.close();  }  } |
| --- |

**Output:-**

Enter the first number: 10

Enter the second number: 20

Before swapping:

First number: 10

Second number: 20

After swapping:

First number: 20

Second number: 10

1. Write a program to check if the number is prime or not

| **package** trainingtaskcompletion;  **import** java.util.Scanner;  **public** **class** IsPrime {  **public** **static** **void** main(String[] args) {  // Create a Scanner object to read input from the user  Scanner scanner = **new** Scanner(System.***in***);  // Prompt the user to enter a number  System.***out***.print("Enter a number: ");  **int** number = scanner.nextInt();  // Close the scanner to release resources  scanner.close();  // Check if the number is prime  **boolean** isPrime = **true**;  **if** (number <= 1) {  isPrime = **false**; // 0 and 1 are not prime  } **else** {  **for** (**int** i = 2; i <= Math.*sqrt*(number); i++) {  **if** (number % i == 0) {  isPrime = **false**;  **break**;  }  }  }  // Print the result  **if** (isPrime) {  System.***out***.println(number + " is a prime number.");  } **else** {  System.***out***.println(number + " is not a prime number.");  }  }  } |
| --- |

**Output:-**

Enter a number: 0

0 is not a prime number.

Enter a number: 10

10 is not a prime number.

Enter a number: 17

17 is a prime number.

1. Write a program to print the factorial of a given number

For Ex: 5!=120

| **package** trainingtaskcompletion;  **import** java.util.Scanner;  **public** **class** Factorial {  **public** **static** **void** main(String[] args) {  // Create a Scanner object to read input from the user  Scanner scanner = **new** Scanner(System.***in***);  // Prompt the user to enter a number  System.***out***.print("Enter a number: ");  **int** number = scanner.nextInt();  // Close the scanner to release resources  scanner.close();  // Calculate the factorial of the number  **long** factorial = *calculateFactorial*(number);  **if** (number < 0) {  // Print the error message for negative value  System.***err***.println("Factorial is not defined for negative numbers");  }  **else** {  // Print the factorial  System.***out***.println("Factorial of " + number + " is: " + factorial);  }  }  // Function to calculate factorial  **public** **static** **long** calculateFactorial(**int** n) {  **if** (n < 0) {  **return** n;  }  // Base case: factorial of 0 is 1  **if** (n == 0) {  **return** 1;  } **else** {  // Recursive case: n! = n \* (n-1)!  **return** n \* *calculateFactorial*(n - 1);  }  }  } |
| --- |

**Output:-**

Enter a number: -123243412

Factorial is not defined for negative numbers

Enter a number: 0

Factorial of 0 is: 1

Enter a number: 10

Factorial of 10 is: 3628800

1. write a program to print the length of the given string

String msg = "Guvi Geek"

| **package** trainingtaskcompletion;  **import** java.util.Scanner;  **public** **class** LengthofString {  **public** **static** **void** main(String[] args) {  // Create a Scanner object to read input from the user  Scanner scanner = **new** Scanner(System.***in***);  // Prompt the user to enter a string  System.***out***.print("Enter a string: ");  String inputString = scanner.nextLine();  // Close the scanner to release resources  scanner.close();  // Calculate the length of the string  **int** length = inputString.length();  // Print the length of the string  System.***out***.println("Length of the string \"" + inputString + "\" is: " + length);  }  } |
| --- |

**Output:-**

Enter a string: Guvi Geek

Length of the string "Guvi Geek" is: 9

Enter a string: Selenium automation testing through JAVA

Length of the string "Selenium automation testing through JAVA" is: 40

1. Write a program to print “Welcome to Guvi” 10 times.

| **package** trainingtaskcompletion;  **public** **class** PrintString10times {  **public** **static** **void** main(String[] args) {  // Loop to print "Welcome to Guvi" 10 times  **for** (**int** i = 1; i <= 10; i++) {  System.***out***.println("Welcome to Guvi");  }  }  } |
| --- |

**Output:-**

Welcome to Guvi

Welcome to Guvi

Welcome to Guvi

Welcome to Guvi

Welcome to Guvi

Welcome to Guvi

Welcome to Guvi

Welcome to Guvi

Welcome to Guvi

Welcome to Guvi

1. write a program to check whether the person is senior citizen or not

| **package** trainingtaskcompletion;  **import** java.util.Scanner;  **public** **class** Seniorcitiornot {    **public** **static** **void** main(String[] args) {  // Create a Scanner object to read input from the user  Scanner scanner = **new** Scanner(System.***in***);  // Prompt the user to enter their age  System.***out***.print("Enter your age: ");  **int** age = scanner.nextInt();  // Close the scanner to release resources  scanner.close();  // Check if the person is a senior citizen  **if** (age >= 60) {  System.***out***.println("You are a senior citizen.");  } **else** {  System.***out***.println("You are not a senior citizen.");  }  }  } |
| --- |

**Output:-**

Enter your age: 59

You are not a senior citizen.

Enter your age: 60

You are a senior citizen.

1. write a program to count number of digits in an integer

| **package** trainingtaskcompletion;  **import** java.util.Scanner;  **public** **class** CountNumberOfDigits {  **public** **static** **void** main(String[] args) {  // Create a Scanner object to read input from the user  Scanner scanner = **new** Scanner(System.***in***);  // Prompt the user to enter an integer  System.***out***.print("Enter an integer: ");  **int** number = scanner.nextInt();  // Close the scanner to release resources  scanner.close();  /\*// Alternate Simple Logic  String numberString = Integer.toString(number);  int digitCount = numberString.replaceAll("\\D", "").length();  // Print the number of digits  System.out.println("Number of digits in the integer: " + digitCount);\*/  // Count the number of digits  **int** digitCount = 0;  **int** temp = Math.*abs*(number); // Store the number in a temporary variable to avoid modifying the original  // number. Math.abs()Convert negative number to positive to count digits  // Handle the case of 0 separately  **if** (temp == 0) {  digitCount = 1;  } **else** {  **while** (temp != 0) {  // Increment the digit count for each digit  digitCount++;  // Remove the last digit from the number  temp = temp / 10;  }  }  // Print the number of digits  System.***out***.println("Number of digits in the integer: " + digitCount);  }  } |
| --- |

**Output:-**

Enter an integer: 234546565

Number of digits in the integer: 9

Enter an integer: 0

Number of digits in the integer: 1

Enter an integer: -1244343

Number of digits in the integer: 7