**JAT Task 4 – INTRODUCTION TO JAVA**

1. Write a Java program that declares four integer variables: a, b, c, and d. Then, write an if statement that checks whether the sum of a and b is greater than the sum of c and d. If the condition is true, the program should output a message indicating that the sum of a and b is greater than the sum of c and d.

public static void prog1() {

// Four integer variables

int a = 5;

int b = 3;

int c = 2;

int d = 4;

// 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("The sum of a and b is greater than the sum of c and d.");

}

}

Output:

The sum of a and b is greater than the sum of c and d.

2. Have a variable store an integer. Create an if statement to find out if it's an even number.

public static void prog2() {

int number = 10;

// Modulus operator to 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.");

}

}

Output:

10 is an even number.

3. Write a program to print the characters from A to Z.

public static void prog3() {

// Loop

for (char letter = 'A'; letter <= 'Z'; letter++) {

System.***out***.println(" " + letter);

}

}

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

4. Write a java program to get 2 numbers from the user and swap their values without any

loss of data. You can make use of additional variable for swapping. Print the

corresponding swapped values of the two numbers as output in the console.

public static void prog4() {

// Create a scanner object to read user input

Scanner input = new Scanner(System.***in***);

// Prompt the user to enter the first number

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

int num1 = input.nextInt();

// Prompt the user to enter the second number

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

int num2 = input.nextInt();

// Print the original values

System.***out***.println("Before swapping:");

System.***out***.println("First number: " + num1);

System.***out***.println("Second number: " + num2);

// Swap the values using an additional variable

int temp = num1;

num1 = num2;

num2 = temp;

// Print the swapped values

System.***out***.println("After swapping:");

System.***out***.println("First number: " + num1);

System.***out***.println("Second number: " + num2);

// Close the scanner

input.close();

}

Output:

Enter the first number: 5

Enter the second number: 6

Before swapping:

First number: 5

Second number: 6

After swapping:

First number: 6

Second number: 5

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

public static void prog5() {

int number = 3; // Number to check

// Check if the number is prime

if (number <= 1) {

System.***out***.println(number + " is not a prime number.");

} else {

boolean isPrime = true;

for (int i = 2; i < number; i++) {

if (number % i == 0) {

isPrime = false; // Found a divisor, it's not prime

break;

}

}

if (isPrime) {

System.***out***.println(number + " is a prime number.");

} else {

System.***out***.println(number + " is not a prime number.");

}

}

}

Output:

3 is a prime number.

6. Write a program to print the factorial of a given number. For Ex: 5!=120

public static void prog6() {

int num = 5; // Given number to calculate factorial

// Calculate the factorial

long factorial = 1;

for (int i = 1; i <= num; i++) {

factorial \*= i; // Multiply factorial by i at each step

}

// Print the result

System.***out***.println("The factorial of " + num + " is: " + factorial);

}

Output:

The factorial of 5 is: 120

7. Write a program to print the length of the given string "Guvi Geek"

public static void prog7() {

// Given string

String msg = "Guvi Geek";

// Calculate the length of the string

int length = msg.length();

// Print the length of the string

System.***out***.println("The length of the string is: " + length);

}

Output:

The length of the string is: 9

8. Write a program To print "Welcome to Guvi" 10 times.

public static void prog8() {

// Loop to print the message 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

9. Write a program to check whether the person is a senior citizen or not.

public static void prog9() {

// Age of the person

int age = 56;

// 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:

You are not a senior citizen.

10.Write a program to Count Number of Digits in an Integer.

public static void prog10() {

int number = 546982;

// Initialize a variable to count digits

int count = 0;

// Loop to count the digits

while (number != 0) {

number = number / 10; // Remove the last digit

count++; // Increment the digit count

}

// Print the number of digits

System.***out***.println("The number of digits is: " + count);

}

}

Output:

The number of digits is: 6