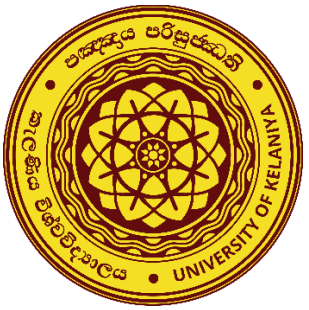
Worksheet 05

CTEC 22043
Object Oriented Programming

Student No: CT/2021/002



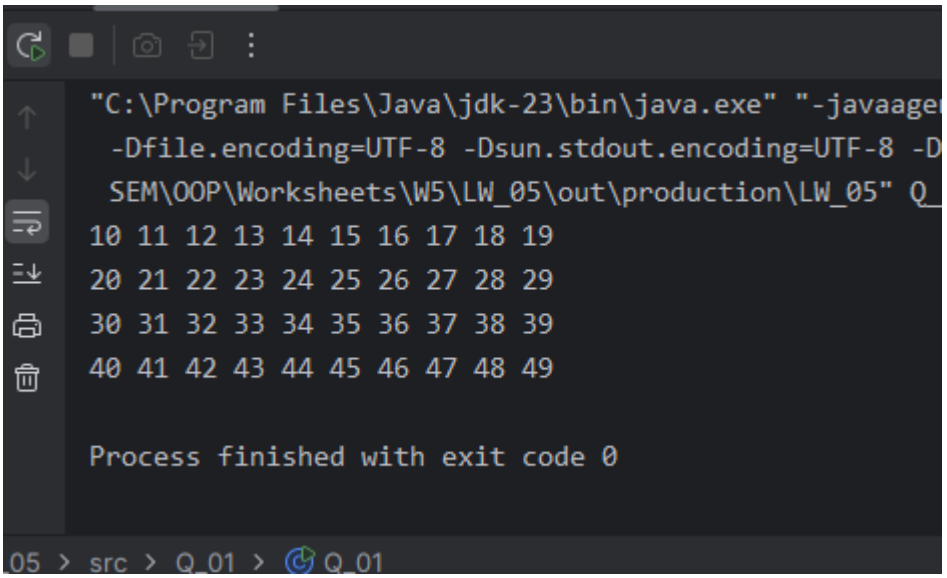
Faculty of Computing and Technology
University of Kelaniya
Sri Lanka

Q-01:

Code:

```
package Q_01;

public class Q_01 {
    public static void main(String[] args) {
        for(int i = 10; i <= 49; i++){
            System.out.print(i+" ");
            if((i+1) % 10 == 0)
                System.out.println();
        }
    }
}
```

Output:

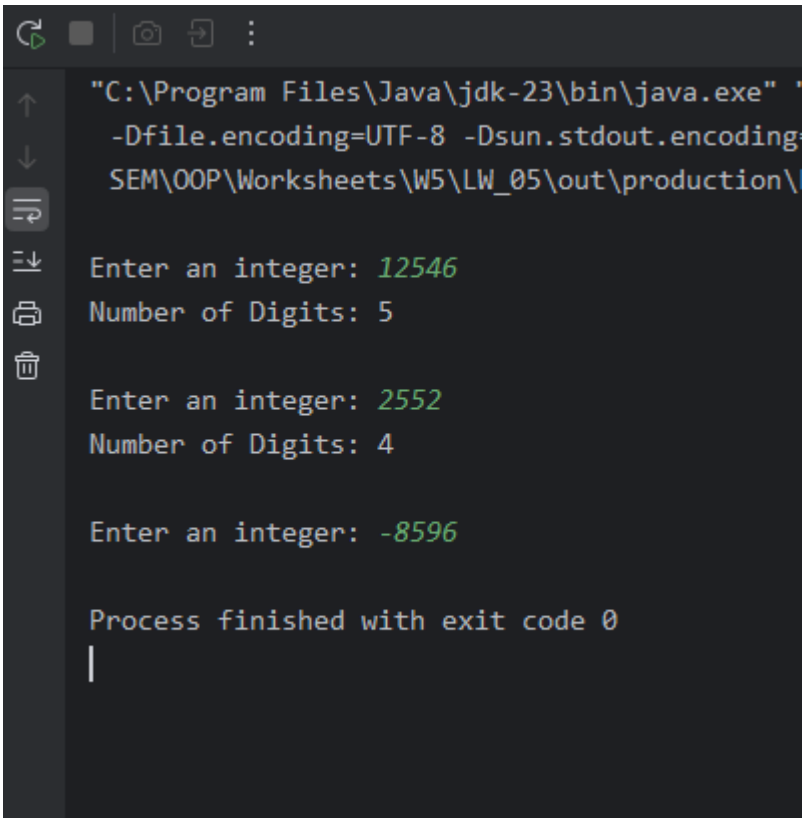


Q-02:

Code:

```
package Q_02;

import java.util.Scanner;

public class Q_02 {
    public static int digitCount(int count) {
        return String.valueOf(Math.abs(count)).length();
    }

    public static void main(String[] args) {
        int num;
        Scanner scan = new Scanner(System.in);
        do{
            System.out.print("\nEnter an integer: ");
            num = scan.nextInt();
            if(num >= 0)
            System.out.println("Number of Digits: "+digitCount(num));
        } while(num >= 0);
    }
}
```

Output:

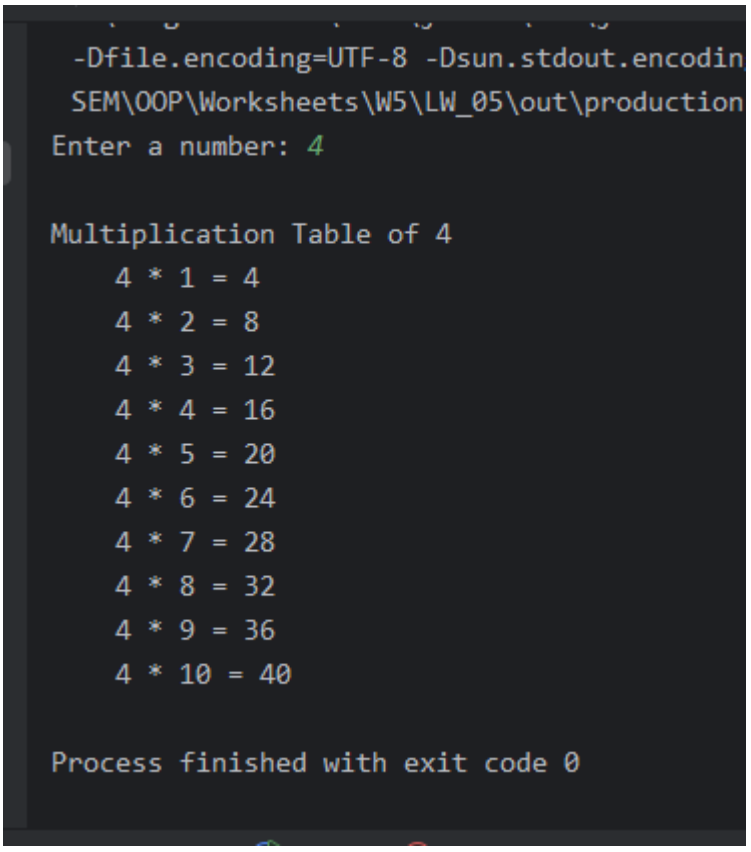


Q-03:

Code:

```
package Q_03;

import java.util.Scanner;

public class Q_03 {
    public static void main(String[] args) {
        int n;
        Scanner scan = new Scanner(System.in);
        System.out.print("Enter a number: ");
        n = scan.nextInt();

        System.out.println("\nMultiplication Table of "+n);
        for(int i=1; i < 11; i++){
            System.out.println("\t"+n+" * "+i+" = "+(n*i));
        }

    }
}
```

Output:

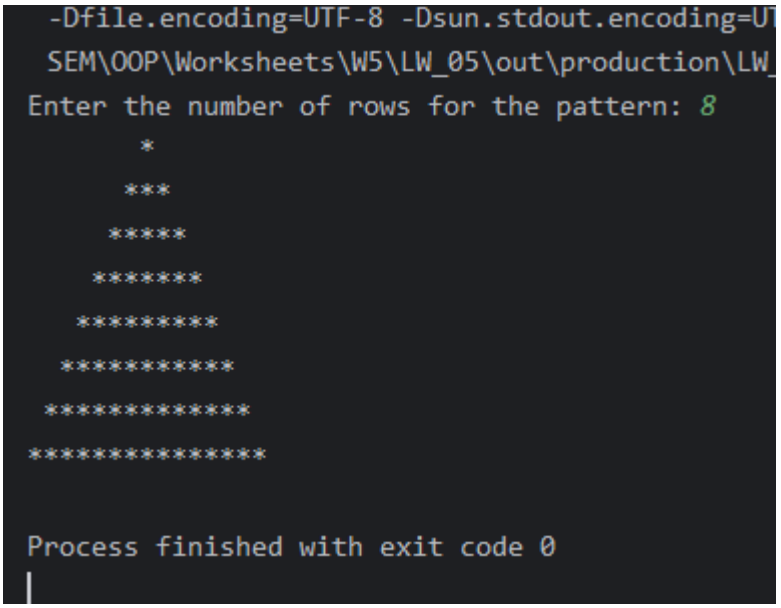


Q-04:

Code:

```
package Q_04;

import java.util.Scanner;

public class Q_04 {
    public static void main(String[] args) {
        int row;
        Scanner scan = new Scanner(System.in);
        System.out.print("Enter the number of rows for the pattern: ");
        row = scan.nextInt();

        //loop through each row
        for(int i = 1; i <= row; i++){
            //printing the spaces on beginning of each line
            for(int j = i; j < row; j++){
                System.out.print(" ");
            }
            //printing the necessary amount of asterisks
            for(int k = 1; k <= (2*i-1); k++){
                System.out.print("*");
            }
            //move to next line after print each line
            System.out.println();
        }
    }
}
```

Output:



Q-05:

Code:

```
package Q_05;

import java.util.Scanner;

public class Q_05 {
    public static void main(String[] args) {
        Scanner scanner = new Scanner(System.in);
        System.out.print("Enter a word or phrase(Enter all characters in
lowercase): ");
        String input = scanner.nextLine();

       String reversed = new StringBuilder(input).reverse().toString();

        if (input.equals(reversed)) {
            System.out.println("It's a palindrome..");
        } else {
            System.out.println("Not a palindrome..");
        }
        scanner.close();
    }
}
```

Output:

```
Enter a word or phrase(Enter all characters in lowercase): kayak
It's a palindrome..

Process finished with exit code 0
```

```
Enter a word or phrase(Enter all characters in lowercase): 6752576
It's a palindrome..

Process finished with exit code 0
```

```
Enter a word or phrase(Enter all characters in lowercase): kelaniya
Not a palindrome..

Process finished with exit code 0
```

```
Enter a word or phrase(Enter all characters in lowercase): -54546
Not a palindrome..

Process finished with exit code 0
```

Q-06:

Code:

```
package Q_06;

import java.util.Random;
import java.util.Scanner;

public class Q_06 {
    public static void main(String[] args) {
        int random,guess;
        Random r = new Random();
        random = r.nextInt(100);

        do{
            System.out.print("\nGuess a number between 0 and 100: ");
            Scanner scan = new Scanner(System.in);
            guess = scan.nextInt();

            if(guess > random){
                System.out.println("Your guess is Higher, Guess again!");
            } else if (guess < random){
                System.out.println("Your guess is Lower, Guess again!");
            } else{
                System.out.println("Your guess is Correct!!");
            }
        } while(guess != random);
        System.out.println("\nThe random number was: "+random);
    }
}
```

Output:

```
Guess a number between 0 and 100: 75
Your guess is Higher, Guess again!

Guess a number between 0 and 100: 40
Your guess is Lower, Guess again!

Guess a number between 0 and 100: 50
Your guess is Higher, Guess again!

Guess a number between 0 and 100: 45
Your guess is Higher, Guess again!

Guess a number between 0 and 100: 42
Your guess is Lower, Guess again!

Guess a number between 0 and 100: 43
Your guess is Correct!!

The random number was: 43
```

Q-07:

Code:

```
package Q_07;

import java.util.Scanner;

public class Q_07 {
    public static void main(String[] args) {
        Scanner scan = new Scanner(System.in);

        System.out.print("Enter a sentence: ");
        String sentence = scan.nextLine();

        System.out.print("Enter word to replace: ");
        String oldWord = scan.nextLine();

        System.out.print("Enter new replacement word: ");
        String newWord = scan.nextLine();

        String replaced = sentence.replace(oldWord, newWord);

        System.out.println("New sentence: " + replaced);
    }
}
```

Output: