


## LAB WORKSHEET -05

CT/2021/078

### QUESTION- 01

package Q1;

```
public class Q1 {  
    public static void main(String[] args) {  
        for (int i=10;i<50;i++)  
        {  
            System.out.print (i + " ");  
            if(i % 10 == 9)  
            {  
                System.out.println();  
            }  
        }  
    }  
}
```



```
Run Q1 x  
"C:\Program Files\Java\jdk-23\bin\java.exe" "-javaagent:C:\Program Files\JetBrains\IntelliJ IDEA Community Edition 2024.3.3\lib\idea_rt.jar=537  
10 11 12 13 14 15 16 17 18 19  
20 21 22 23 24 25 26 27 28 29  
30 31 32 33 34 35 36 37 38 39  
40 41 42 43 44 45 46 47 48 49  
Process finished with exit code 0
```

### QUESTION -02

package Q2;

import java.util.Scanner;

```
public class Q2 {  
    public static int countDigits (int number) {  
        return String.valueOf(Math.abs(number)).length();  
    }  
}
```

```

    }

    public static void main(String[] args) {
        Scanner scanner = new Scanner (System.in);
        while(true)
        {
            System.out.print("Enter a Number: ");
            int input =scanner.nextInt();
            if(input < -1)
            {
                System.out.println("it is negative number");
                break;
            }
            System.out.println("Number of Digits : " + countDigits(input));
        }
        scanner .close();
    }
}

```

The screenshot shows the 'Run' window of an IDE. The command line at the top is: `"C:\Program Files\Java\jdk-23\bin\java.exe" "-javaagent:C:\Program Files\JetBrains\IntelliJ IDEA Community Edition 2024.3.3\lib\idea_rt.jar=5375"`. The output area shows the following sequence of events:

- Enter a Number: 234
- Number of Digits : 3
- Enter a Number: 3456
- Number of Digits : 4
- Enter a Number: -987
- it is negative number
- Process finished with exit code 0

### QUESTION -03

```

package Q3;
import java.util.Scanner;

public class Q3 {
    public static void main(String[] args) {
        Scanner s =new Scanner(System.in);
        System.out.println("Enter the number:");
    }
}

```

```

int N = s.nextInt();

for (int i = 1; i <= 10; i++)
{
    int result = N * i;
    System.out.println(N + "*" + i + " = " + result);
}
}
}

```

```

Run Q3 x
"C:\Program Files\Java\jdk-23\bin\java.exe" "-javaagent:C:\Program Files\JetBrains\IntelliJ IDEA Community Edition 2024.3.3\lib\idea_rt.jar=537
Enter the number:
4
4*1 = 4
4*2 = 8
4*3 = 12
4*4 = 16
4*5 = 20
4*6 = 24
4*7 = 28
4*8 = 32
4*9 = 36
4*10 = 40
Process finished with exit code 0
|

```

#### QUESTION- 04

```

package Q4;
import java.util.Scanner;

public class Q4 {
    public static void main(String[] args) {
        Scanner scanner = new Scanner(System.in);
        System.out.print("Enter the number of rows: ");
        int rows = scanner.nextInt();

        for (int i = 1; i <= rows; i++) {
            for (int j = 1; j <= rows - i; j++) {
                System.out.print(" ");
            }
            for (int k = 1; k <= (2 * i - 1); k++) {
                System.out.print("*");
            }
        }
    }
}

```

```

    }
    System.out.println();
}

scanner.close();
}
}

```

```

Run Q4 x
"C:\Program Files\Java\jdk-23\bin\java.exe" "-javaagent:C:\Program Files\JetBrains\IntelliJ IDEA Community Edition 2024.3.3\lib\idea_rt.jar=5381
Enter the number of rows: 5
*
***
*****
*****
*****
*****
Process finished with exit code 0

```

## QUESTION -05

```

package Q5;
import java.util.Scanner;

public class Q5 {
    public static void main(String[] args) {
        Scanner input = new Scanner(System.in);

        System.out.println("Enter a word:");
        String word = input.nextLine();

        if (isPalindrome(word)) {
            System.out.println("The given word is palindrome");
        } else {
            System.out.println("The given word is not palindrome");
        }

        input.close();
    }
}

```

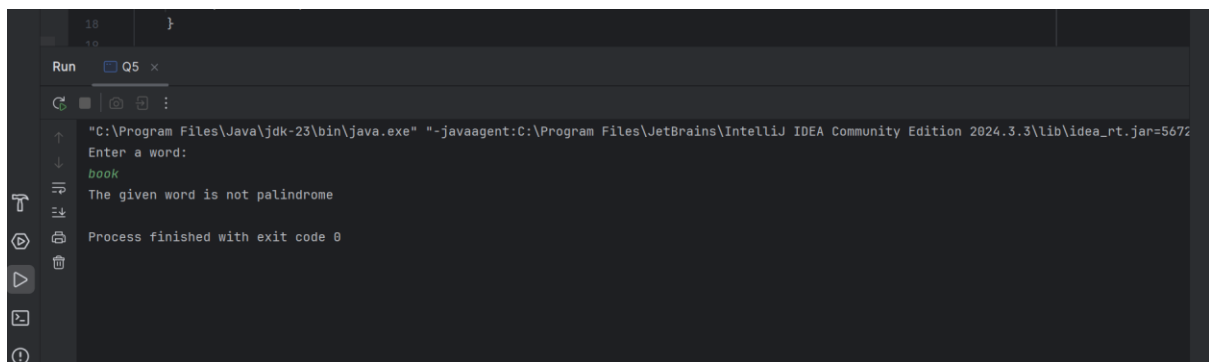
```

public static boolean isPalindrome(String word) {
    word = word.replaceAll("[^A-Za-z0-9]", "").toLowerCase();

    String reverseWord = "";
    for (int i = word.length() - 1; i >= 0; i--) {
        reverseWord += word.charAt(i);
    }

    return word.equals(reverseWord);
}
}

```



## QUESTION-06

```
package Q6;
```

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

```

public class Q6 {
    public static void main(String[] args) {
        Scanner input = new Scanner(System.in);
        Random rand = new Random();

        int secretNumber = rand.nextInt(100) + 1; // Random number between 1 and 100
        int guess = 0;

        System.out.println("Guess a number between 1 and 100:");

        while (guess != secretNumber) {
            System.out.print("Enter your guess: ");
            guess = input.nextInt();
        }
    }
}

```

```

        if (guess < secretNumber) {
            System.out.println("Too low! Try again.");
        } else if (guess > secretNumber) {
            System.out.println("Too high! Try again.");
        } else {
            System.out.println("Congratulations! You guessed the correct number.");
        }
    }
}

input.close();
}
}

```

```

Run Q6 x
"C:\Program Files\Java\jdk-23\bin\java.exe" "-javaagent:C:\Program Files\JetBrains\IntelliJ IDEA Community Edition 2024.3.3\lib\idea-agent-2\idea-agent-2.jar" -classpath C:\Program Files\Java\jdk-23\bin\java.exe
Guess a number between 1 and 100:
Enter your guess: 127
Too low! Try again.
Enter your guess: 67
Too low! Try again.
Enter your guess: 90
Too high! Try again.
Enter your guess: 76
Too high! Try again.
Enter your guess: 70
Too low! Try again.
Enter your guess: 75
Too high! Try again.
Enter your guess: 74
Too high! Try again.
Enter your guess: 71
Too low! Try again.
Enter your guess: 72
Congratulations! You guessed the correct number.

Process finished with exit code 0

```

## QUESTION- 07

```

package Q7;

import java.util.Scanner;

public class Q7 {
    public static void main(String[] args) {
        Scanner input = new Scanner(System.in);

        System.out.print("Enter a sentence: ");
    }
}

```

```

String sentence = input.nextLine();

String choice;

do {

    System.out.print("Enter the word to be replaced: ");
    String oldWord = input.nextLine();

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

    sentence = sentence.replaceAll("\\b" + oldWord + "\\b", newWord);

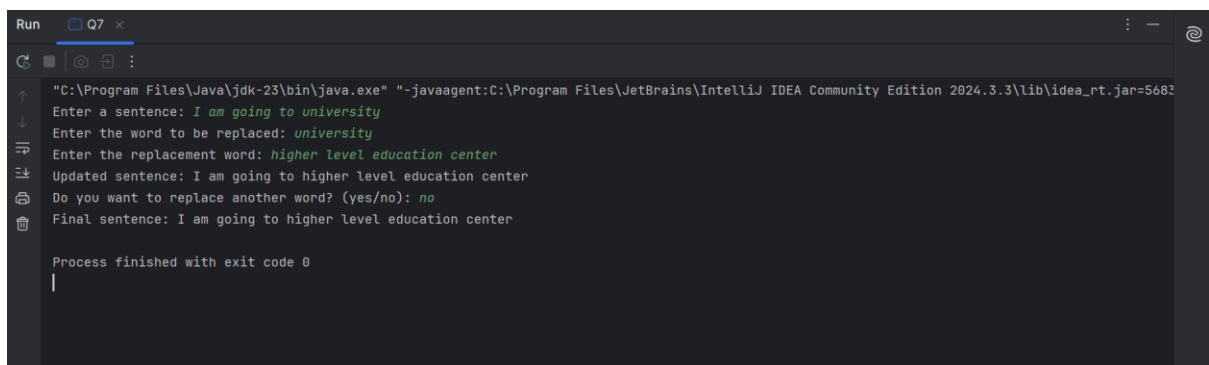
    System.out.println("Updated sentence: " + sentence);
    System.out.print("Do you want to replace another word? (yes/no): ");
    choice = input.nextLine().toLowerCase();

} while (choice.equals("yes"));

System.out.println("Final sentence: " + sentence);

input.close();
}
}

```



```

Run Q7 x
"C:\Program Files\Java\jdk-23\bin\java.exe" "-javaagent:C:\Program Files\JetBrains\IntelliJ IDEA Community Edition 2024.3.3\lib\idea_rt.jar=5683
Enter a sentence: I am going to university
Enter the word to be replaced: university
Enter the replacement word: higher level education center
Updated sentence: I am going to higher level education center
Do you want to replace another word? (yes/no): no
Final sentence: I am going to higher level education center

Process finished with exit code 0
|

```