

Lab Worksheet 5: Repetition Statements

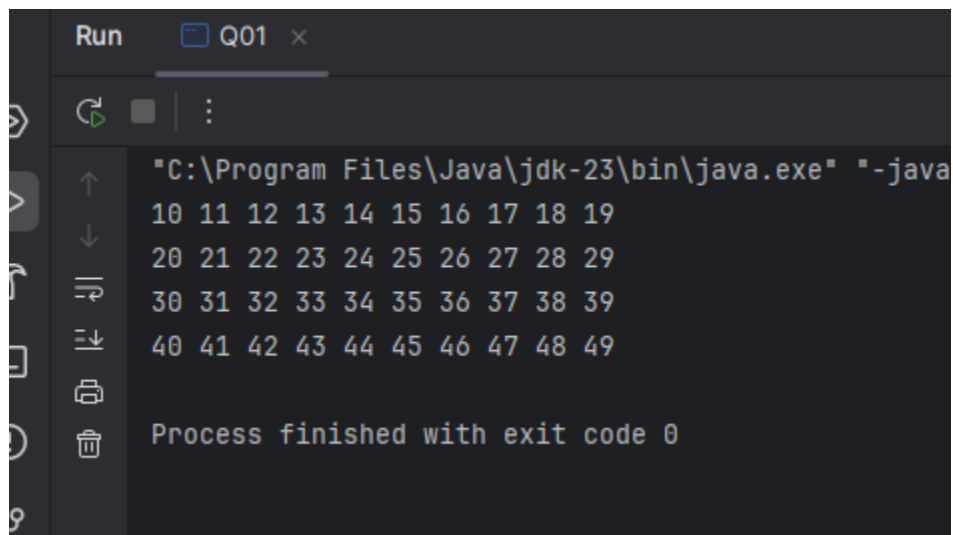
CT/2021/015-Wijewardhana.N.P

01) Code:

```
package Q1;

public class Q01 {
    public static void main(String[] args) {
        int number=10;
        while (number<=49){
            System.out.print(number+" ");
            if(number%10==9){
                System.out.println();
            }
            number=number+1;
        }
    }
}
```

Output:



```
Run Q01 x
"C:\Program Files\Java\jdk-23\bin\java.exe" "-java
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
```

02) Code:

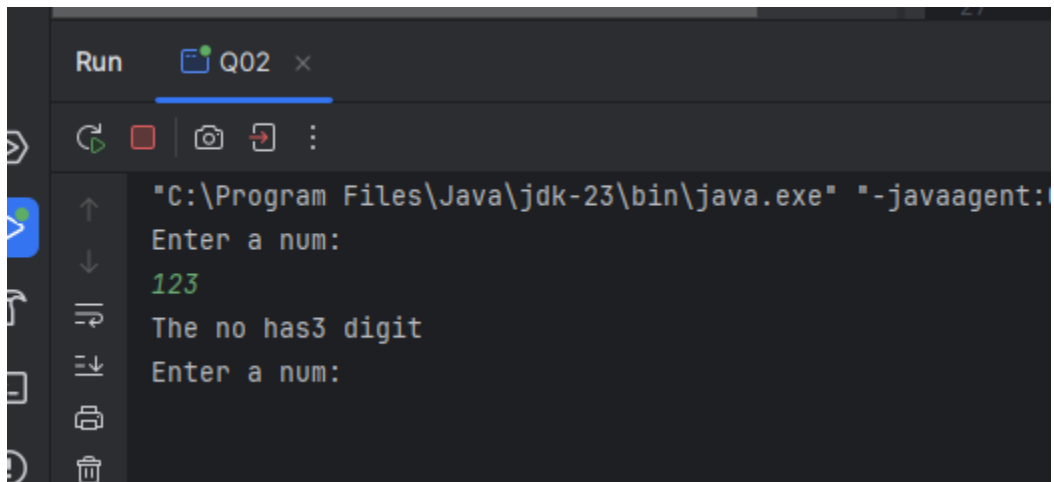
```
package Q2;
import java.util.Scanner;
public class Q02 {
    public static void main(String[] args) {
        Scanner scanner=new Scanner(System.in);
        int num;
        do{
            System.out.println("Enter a num:");
            num=scanner.nextInt();

            if(num>=0){
                int digit=digitCount(num);
                System.out.println("The no has"+digit+" digit");
            }

        }while (num>=0);

    }
    public static int digitCount(int num){
        int count=0;
        while (num>0){
            num=num/10;
            count ++;
        }
        return count;
    }
}
```

Output:



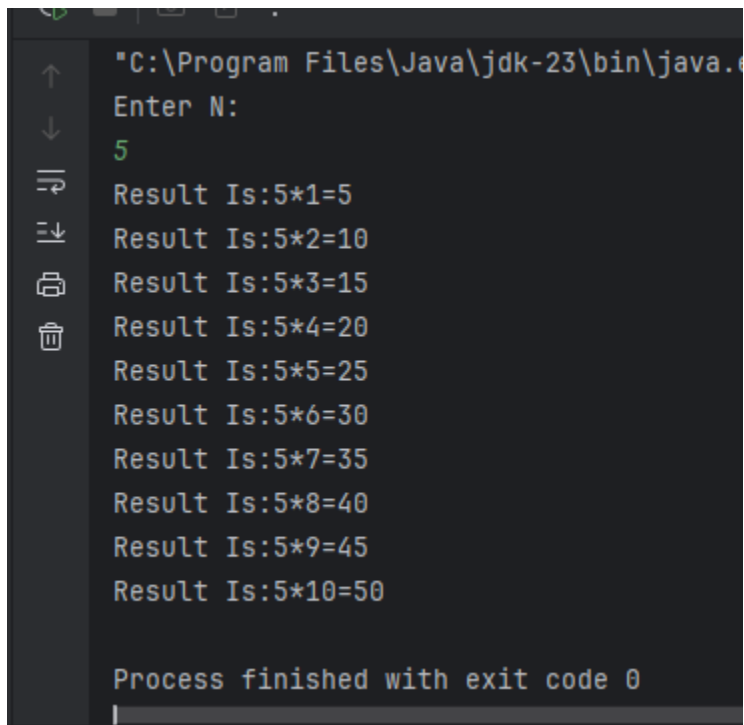
```
Run Q02 x
"C:\Program Files\Java\jdk-23\bin\java.exe" "-javaagent:
Enter a num:
123
The no has3 digit
Enter a num:
```

03) Code:

```
package Q3;
import java.util.Scanner;
public class Q03 {
    public static void main(String[] args) {
        Scanner scanner=new Scanner(System.in);
        int N;
        System.out.println("Enter N:");
        N= scanner.nextInt();

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

Output:



```
"C:\Program Files\Java\jdk-23\bin\java.exe"
Enter N:
5
Result Is:5*1=5
Result Is:5*2=10
Result Is:5*3=15
Result Is:5*4=20
Result Is:5*5=25
Result Is:5*6=30
Result Is:5*7=35
Result Is:5*8=40
Result Is:5*9=45
Result Is:5*10=50

Process finished with exit code 0
```

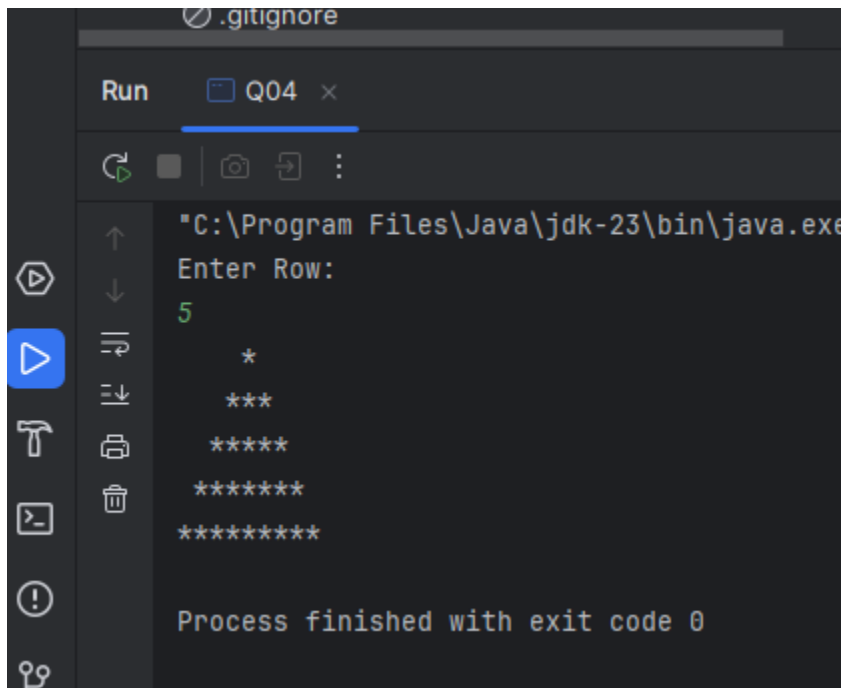
04)Code:

```
package Q4;
import java.util.Scanner;
public class Q04 {
    public static void main(String[] args) {
        Scanner scanner=new Scanner(System.in);

        System.out.println("Enter Row:");
        int row=scanner.nextInt();
        int space=row-1;
        int asterisks=1;

        for(int i=0;i<row;i++){
            for(int j=0;j<space;j++){
                System.out.print(" ");
            }
            for(int k=0;k<asterisks;k++){
                System.out.print("*");
            }
            System.out.println();
            asterisks +=2;
            space--;
        }
    }
}
```

Output:



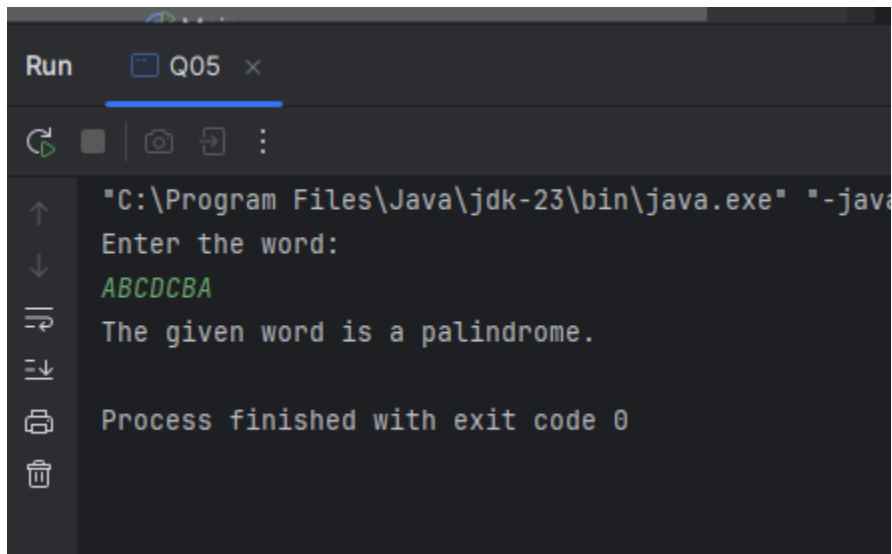
```
"C:\Program Files\Java\jdk-23\bin\java.exe
Enter Row:
5
 *
 ***
 *****
 *****
 *****

Process finished with exit code 0
```

05)Code:

```
public class Q05 {  
    public static void main(String[] args) {  
        Scanner scanner = new Scanner(System.in);  
        System.out.println("Enter the word:");  
        String word = scanner.nextLine();  
  
        if (isPalindrome(word)) {  
            System.out.println("The given word is a palindrome.");  
        } else {  
            System.out.println("The given word is not a palindrome.");  
        }  
  
        scanner.close();  
    }  
  
    public static boolean isPalindrome(String word) {  
        String reverseWord = "";  
        for (int i = word.length() - 1; i >= 0; i--) {  
            reverseWord += word.charAt(i);  
        }  
        return word.equalsIgnoreCase(reverseWord);  
    }  
}
```

Output:



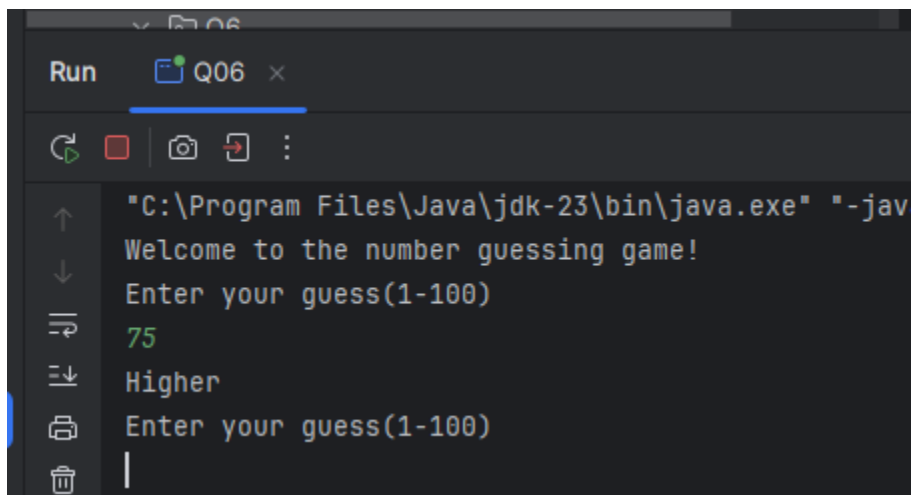
```
Run Q05 x  
"C:\Program Files\Java\jdk-23\bin\java.exe" "-java  
Enter the word:  
ABCDcba  
The given word is a palindrome.  
Process finished with exit code 0
```

06)Code:

```
package Q6;
import java.util.Scanner;
import java.util.Random;
public class Q06 {
    public static void main(String[] args) {
        Scanner input = new Scanner(System.in);
        Random rand = new Random();
        int guess;
        int attempts=0;
        int secretNumber = rand.nextInt(100) + 1;
        System.out.println("Welcome to the number guessing game!");
        do{
            System.out.println("Enter your guess(1-100)");
            guess=input.nextInt();
            attempts++;

            if(guess>secretNumber){
                System.out.println("Higher");
            }
            else if(guess<secretNumber){
                System.out.println("Lower");
            }
            else{
                System.out.println("Congratulations! you guessed the secret
number correctly in"+attempts+"attempts");
            }
        }while (guess!=secretNumber);
    }
}
```

Output:



```
Run Q06 x
Welcome to the number guessing game!
Enter your guess(1-100)
75
Higher
Enter your guess(1-100)
|
```

07)Code:

```
package Q7;
import java.util.Scanner;
public class Q07 {
    public static void main(String[] args) {
        Scanner scanner = new Scanner(System.in);

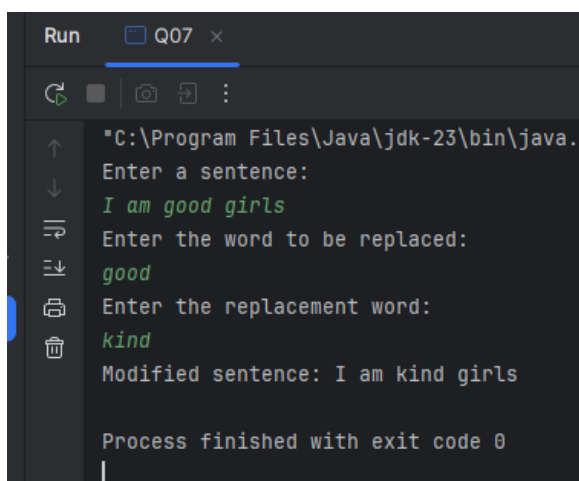
        System.out.println("Enter a sentence:");
        String sentence = scanner.nextLine();

        System.out.println("Enter the word to be replaced:");
        String wordToReplace = scanner.nextLine();

        System.out.println("Enter the replacement word:");
        String replacementWord = scanner.nextLine();

        String modifiedSentence = replaceWords(sentence, wordToReplace,
replacementWord);
        System.out.println("Modified sentence: " + modifiedSentence);

        scanner.close();
    }
    public static String replaceWords(String sentence, String wordToReplace,
String replacementWord) {
        String[] words = sentence.split(" ");
        for (int i = 0; i < words.length; i++) {
            // Remove punctuation if needed for cleaner matching
            if (words[i].equalsIgnoreCase(wordToReplace)) {
                words[i] = replacementWord;
            }
        }
        return String.join(" ", words);
    }
}
```



```
Run Q07 x
"C:\Program Files\Java\jdk-23\bin\java.
Enter a sentence:
I am good girls
Enter the word to be replaced:
good
Enter the replacement word:
kind
Modified sentence: I am kind girls

Process finished with exit code 0
```