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## TP5 Report

TP05-01

```
1 package TP05;
2
3 import java.util.Scanner;
4 import TP_04.*;
5 public class PrimeList {
6     private int start = 2;
7     private int end;
8     public PrimeList(int end){
9         this.end = end;
10    }
11
12    public void ListAll(){
13        PrimeNumber pn;
14        int count = 0;
15        for(int n = start; n<=end; n++){
16            pn = new PrimeNumber(n);
17            if(pn.isPrime()){
18                System.out.print(n+" ");
19                count++;
20            }
21        }
22        if(count==1){
23            System.out.print("is prime number.\n");
24        }else if(count >1){
25            System.out.print("are prime number.\n");
26        }
27    }
28
29
30 }
31 public static void main(String[] args) {
32     Scanner sc = new Scanner(System.in);
33     System.out.print("input end number: ");
34     PrimeList pl;
35     pl = new PrimeList(sc.nextInt());
36     pl.ListAll();
37 }
38 }
39
```

Output

```
D:\550007eeab5210\Fednat.java\juc_ws\JAVA_TP_ea0281D0\bin - TP05.PrimeList
input end number: 100
2 3 5 7 11 13 17 19 23 29 31 37 41 43 47 53 59 61 67 71 73 79 83 89 97 are prime number.
PS D:\General\ITC\I3-GIC\Semester_2\OOP\JAVA_TP> █
```

## TP05-02

```
1 package TP05;
2
3 import java.util.Scanner;
4
5 public class OddNum {
6     private int number;
7
8     public OddNum(int number){
9         this.number = number;
10    }
11
12    public boolean isOdd(){
13        if(number%2 != 0){
14            return true;
15        }
16        return false;
17    }
18
19    public static void main(String[] args) {
20        Scanner sc = new Scanner(System.in);
21        RangeUtil ce1;
22        System.out.print("Input Start number: ");
23        int start = sc.nextInt();
24        System.out.print("Input End number: ");
25        int end = sc.nextInt();
26        System.out.print("Input Step: ");
27        int step = sc.nextInt();
28
29        ce1 = new RangeUtil(start, end, step);
30        System.out.print("Odd number: ");
31        System.out.print(ce1.ToString("Odd"));
32
33    }
34 }
35
```

## Output

```
nextceptionMessages
C:\Users\user> cd C:\Users\user\workspace\storage\3754712012000200350007cc003110\src\main\java\
ea028fb0\bin' 'TP05.OddNum'
Input Start number: 10
Input End number: 200
Input Step: 3
Odd number: 10 16 22 28 34 40 46 52 58 64 70 76 82 88 94 100 106 112 118 124 130 136 142 148 154 160 166 172 178 184 190 196
PS D:\General\ITC\I3-GIC\Semester_2\OOP\JAVA_TP> 
```

## TP05-03

```
1 package TP05;
2
3 import java.util.Scanner;
4
5 public class EvenNum {
6     private int number;
7
8     public EvenNum(int number){
9         this.number = number;
10    }
11
12    public boolean isOdd(){
13        if(number%2 == 0){
14            return true;
15        }
16        return false;
17    }
18
19    public static void main(String[] args) {
20        Scanner sc = new Scanner(System.in);
21        RangeUtil ce1;
22        System.out.print("Input Start number: ");
23        int start = sc.nextInt();
24        System.out.print("Input End number: ");
25        int end = sc.nextInt();
26        System.out.print("Input Step: ");
27        int step = sc.nextInt();
28
29        ce1 = new RangeUtil(start, end, step);
30        System.out.print("Odd number: ");
31        System.out.print(ce1.ToString("Even"));
32    }
33 }
```

## Output

```
ea028fb0\bin' 'TP05.EventNum'
Input Start number: 10
Input End number: 200
Input Step: 3
Odd number: 13 19 25 31 37 43 49 55 61 67 73 79 85 91 97 103 109 115 121 127 133 139 145 151 157 163 169 175 181 187 193 199
PS D:\General\ITC\I3-GIC\Semester_2\OOP\JAVA_TP> []
```

## TP05-04

```
1 package TP05;
2 import java.util.Scanner;
3
4 public class CompanyProfit {
5     public static void main(String[] args) {
6         Scanner sc = new Scanner(System.in);
7         double[] month = new double[12];
8         double total = 0;
9
10        for (int i=0; i<12; i++){
11            System.out.printf("Profit for month %d : ", i+1);
12            month[i] = sc.nextDouble();
13            total += month[i];
14        }
15
16        System.out.printf("\nTotal profits for 12 months : %.2f\n", total);
17    }
18 }
```

## Output

```
ea028fb0\bin' 'TP05.CompanyProfit'
Profit for month 1 : 25
Profit for month 2 : 2.5
Profit for month 3 : -63
Profit for month 4 : 0
Profit for month 5 : 10
Profit for month 6 : 32
Profit for month 7 : 26.5
Profit for month 8 : 28.2
Profit for month 9 : 29
Profit for month 10 : 31.7
Profit for month 11 : 29.5
Profit for month 12 : 26

Total profits for 12 months : 177.40
PS D:\General\ITC\I3-GIC\Semester_2\OOP\JAVA_TP> []
```

## TP05-05

```

1  package TP05;
2
3  import java.util.Objects;
4  import java.util.Scanner;
5
6  import javax.sql.rowset.WebRowSet;
7
8  public class Palindrome {
9      private String word;
10
11     public Palindrome(String word){
12         this.word = word;
13     }
14
15     boolean checkPalindromeByREV(){
16         StringBuilder wordREV = new StringBuilder(word);
17         wordREV.reverse();
18         return wordREV.toString().equalsIgnoreCase(word);
19     }
20
21
22     boolean checkPalindromeByLOOP(){
23         for(int i=0; i <= word.length()/2; i++){
24             if(word.charAt(i) != word.charAt(word.length()-1-i)) return false;
25             return true;
26         }
27
28         return true;
29     }
30
31     public static void main(String[] args) {
32         Palindrome pa;
33         Scanner sc = new Scanner(System.in);
34
35         System.out.print("Please gives a word to Check: ");
36         pa = new Palindrome(sc.nextLine());
37         System.out.print("Choose method (REV, LOOP): ");
38         switch(sc.next()){
39             case "REV":
40                 if(pa.checkPalindromeByREV()){
41                     System.out.printf("%s is Palindrome.\n",pa.word);
42                 }
43                 else{
44                     System.out.printf("%s is not Palindrme.\n",pa.word);
45                 }
46                 break;
47             case "LOOP":
48                 if(pa.checkPalindromeByLOOP()){
49                     System.out.printf("%s is Palindrome.\n",pa.word);
50                 }
51                 else{
52                     System.out.printf("%s is not Palindrme.\n",pa.word);
53                 }
54                 break;
55         }
56
57     }
58 }
59

```

## Output

```

Please gives a word to Check: CHHIT
Choose method (REV, LOOP): REV
CHHIT is not Palindrme.

```

```
Please gives a word to Check: CHHITTIHC
Choose method (REV, LOOP): LOOP
CHHITTIHC is Palindrome.
```

## TP05-06

```
1 package TP05;
2
3 import java.util.Scanner;
4
5 public class Mirroring {
6     private String word;
7     public Mirroring(String word){
8         this.word = word;
9     }
10
11     public String makePalindrome(){
12         String wordRev = "";
13         for(int i = word.length()-1; i>=0; i--){
14             wordRev = wordRev + word.charAt(i);
15         }
16         wordRev = word + wordRev;
17         return wordRev;
18     }
19     public static void main(String[] args) {
20         Mirroring mi;
21         Scanner sc = new Scanner(System.in);
22         System.out.print("Please enter a word: ");
23         mi = new Mirroring(sc.nextLine());
24         System.out.println(mi.makePalindrome());
25     }
```

## Output

```
Exception in thread "main" java.lang.NoClassDefFoundError: TP05.Mirroring
Please enter a word: I love you
I love you uoy evol I
```

## TP05-07

```

1  package TP05;
2
3  import java.util.Scanner;
4
5  public class EscapeCharactersReplacement {
6      private String word;
7      public EscapeCharactersReplacement(String word){
8          this.word = word;
9      }
10
11     public String SymbolToChar(){
12         String replace;
13         replace=word.replaceAll("\\\\n", "(new_line)")
14                     .replaceAll("\\\\t", "(tab)")
15                     .replaceAll("\\\\\\\\", "(slash)")
16                     .replaceAll("//", "(comment_line)")
17                     .replaceAll(":\\)", "(smile)");
18         return replace;
19     }
20
21     public String CharToSymbol(){
22         String replace;
23         replace=word.replaceAll("(new_line)","\\\\n")
24                     .replaceAll("(tab)", "\\t")
25                     .replaceAll("(slash)", "\\\\")
26                     .replaceAll("(comment_line)", "//")
27                     .replaceAll( "(smile)", ":\\)");
28         return replace;
29     }
30

```

## Output

```

ea028fb0\bin\TP05.EscapeCharactersReplacement
Please enter a sentence: \n \t is used to represent new line \n\\ it is a // line comment :)
Encoded sentence: (slash)n (slash)t is used to represent new line (slash)n(slash)(slash) it is a (comment_line) line comment (smile)
Do you want to decode the message? (Y/N): Y
Decoded sentence: \n \t is used to represent new line \n\\ it is a // line comment :)
PS D:\General\ITC\I3-GIC\Semester_2\OOP\JAVA_TP> 

```

```
1 package TP05;
2
3 public class RangeUtil {
4     private int start, end, step;
5
6     public RangeUtil(int start, int end, int step){
7         this.start = start;
8         this.end = end;
9         this.step = step;
10    }
11    public String ToString(String n){
12        String string = "";
13        EvenNum ev;
14        if(n == "Odd"){
15
16            if(start<end){
17                for (int i=start; i<=end; i+=step){
18                    ev = new EvenNum(i);
19                    if(ev.isOdd()){
20                        string = string + " " + Integer.toString(i);
21                    }
22                }
23            }else{
24                for(int i=end; i<=start; i+=step){
25                    ev = new EvenNum(i);
26                    if(ev.isOdd()){
27                        string = string+" " + Integer.toString(i);
28                    }
29                }
30            }
31        }
32        if(n == "Even"){
33            if(start<end){
34                for (int i=start; i<=end; i+=step){
35                    ev = new EvenNum(i);
36                    if(!ev.isOdd()){
37                        string = string + " " + Integer.toString(i);
38                    }
39                }
40            }else{
41                for(int i=end; i<=start; i+=step){
42                    ev = new EvenNum(i);
43                    if(!ev.isOdd()){
44                        string = string+" " + Integer.toString(i);
45                    }
46                }
47            }
48        }
49        return string;
50    }
51 }
52
```



## TP05-CE2

```
1  package TP05;
2
3  public class RangeUtil {
4      private int start, end, step;
5
6      public RangeUtil(int start, int end, int step){
7          this.start = start;
8          this.end = end;
9          this.step = step;
10     }
11     public String ToString(String n){
12         String string = "";
13         EvenNum ev;
14         if(n == "Odd"){
15
16             if(start<end){
17                 for (int i=start; i<=end; i+=step){
18                     ev = new EvenNum(i);
19                     if(ev.isOdd()){
20                         string = string + " " + Integer.toString(i);
21                     }
22                 }
23             }else{
24                 for(int i=end; i<=start; i+=step){
25                     ev = new EvenNum(i);
26                     if(ev.isOdd()){
27                         string = string+" " + Integer.toString(i);
28                     }
29                 }
30             }
31         }
32         if(n == "Even"){
33             if(start<end){
34                 for (int i=start; i<=end; i+=step){
35                     ev = new EvenNum(i);
36                     if(!ev.isOdd()){
37                         string = string + " " + Integer.toString(i);
38                     }
39                 }
40             }else{
41                 for(int i=end; i<=start; i+=step){
42                     ev = new EvenNum(i);
43                     if(!ev.isOdd()){
44                         string = string+" " + Integer.toString(i);
45                     }
46                 }
47             }
48         }
49         return string;
50     }
51 }
52
```