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TP4 Report

TP04-01

```
1 import java.util.Scanner;
2 public class PrimeNumber{
3     int number, divisible;
4     PrimeNumber(int number){
5         this.number = number;
6     }
7     boolean isPrime(){
8         if(number<2) return false;
9         for (int i=2; i<number; i++){
10             if(number%i == 0){
11                 divisible = i;
12                 return false;
13             }
14         }
15         return true;
16     }
17     public static void main(String[] args) {
18         PrimeNumber p;
19         Scanner sc = new Scanner(System.in);
20         System.out.print("Input number to check whether it is Prime number or not: ");
21         p = new PrimeNumber(sc.nextInt());
22         if(p.isPrime()) System.err.println("It is Prime number.");
23         else System.out.println("It is not Prime Number Because It divided by "+p.divisible);
24     }
25 }
26
```

Output

```
Input number to check whether it is Prime number or not: 7
It is Prime number.
```

```
Input number to check whether it is Prime number or not: 100
It is not Prime Number Because It divided by 2
```

TP04-02

```
1  import java.util.Scanner;
2  public class LuckyNumber {
3      Integer number;
4      int len;
5      LuckyNumber (int number){
6          this.number = number;
7          this.len = String.valueOf(number).length();
8      }
9
10     void isLucky(){
11         Integer di_fri3, di_last3;
12         di_fri3 = this.number/1000;
13         di_last3 = this.number%1000;
14
15         if(di_fri3 == di_last3){
16             System.out.println("\n"+number + " is lucky number.");
17         }
18         else{
19             System.out.println("\n"+number + " is not lucky number.");
20         }
21     }
22
23     void isValid(){
24         if (this.len == 6){
25             this.isLucky();
26         }
27         else {
28             System.err.println("\nInvalid input number, please input only 6 digits number.");
29         }
30     }
31
32     public static void main(String[] args) {
33         LuckyNumber l;
34         Scanner sc = new Scanner(System.in);
35         System.out.println("Program for testing for lucky number.");
36         System.out.print("Please input 6 digits number: ");
37         l = new LuckyNumber(sc.nextInt());
38         l.isValid();
39     }
40 }
41
```

Output

Program for testing for lucky number.

Please input 6 digits number: 1234

Invalid input number, please input only 6 digits number.

Program for testing for lucky number.

Please input 6 digits number: 333360

333360 is lucky number.

Program for testing for lucky number.

Please input 6 digits number: 123456

123456 is not lucky number.

TP04-03

```
1  import java.util.Scanner;
2
3  public class ReversingNumber {
4      int number;
5      int len;
6
7      ReversingNumber (int number){
8          this.number = number;
9          this.len = String.valueOf(number).length();
10     }
11
12     void Reverse(){
13         int rev = this.number;
14         int result = 0;
15         while (rev > 0){
16             result = result*10 + rev%10;
17             rev = rev/10;
18         }
19         System.out.println("\nAfter reverse: " + result + "\n");
20     }
21
22     void isValid(){
23         if(len == 4){
24             this.Reverse();
25         }
26         else{
27             System.err.print("\nError: Invalid input number, please input only 4 digits number.\n\n");
28         }
29     }
30
31     public static void main(String[] args) {
32         ReversingNumber r;
33         Scanner sc = new Scanner(System.in);
34         System.out.print("Program for reversing a 4 digits number.\n");
35         System.out.print("Please input 4 digits number: ");
36         r = new ReversingNumber(sc.nextInt());
37         r.isValid();
38     }
39 }
```

Output

```
Program for reversing a 4 digits number.
Please input 4 digits number: 123
```

```
Error: Invalid input number, please input only 4 digits number.
```

```
Program for reversing a 4 digits number.
Please input 4 digits number: 2398
```

```
After reverse: 8932
```

```
1  import java.util.Scanner;
2
3  public class MoneyExchange {
4      Double riel, dollar, baht;
5
6      void RielsToDollar(){
7          Scanner sc = new Scanner(System.in);
8          System.out.print("Input money in RIELS: ");
9          this.riel = sc.nextDouble();
10         this.dollar = this.riel/4000;
11         System.out.printf("\n%.0f RIELS = %.2f USD\n", this.riel, this.dollar);
12     }
13     void RielToBaht(){
14         Scanner sc = new Scanner(System.in);
15         System.out.print("Input money in RIELS: ");
16         this.riel = sc.nextDouble();
17         this.baht = this.riel/4000*30;
18         System.out.printf("\n%.0f RIELS = %.2f Baht\n", this.riel, this.baht);
19     }
20     void DollarToRiel(){
21         Scanner sc = new Scanner(System.in);
22         System.out.print("Input money in Dollar: ");
23         this.dollar= sc.nextDouble();
24         this.riel = this.dollar*4000;
25         System.out.printf("\n%.2f USD = %.0f RIEL\n", this.dollar, this.riel);
26     }
27     void DollarToBaht(){
28         Scanner sc = new Scanner(System.in);
29         System.out.print("Input money in Dollar: ");
30         this.dollar = sc.nextDouble();
31         this.baht = this.dollar*30;
32         System.out.printf("\n%.2f USD = %.2f Baht\n", this.dollar, this.baht);
33     }
34     void BahtToRiel(){
35         Scanner sc = new Scanner(System.in);
36         System.out.print("Input money in Baht: ");
37         this.baht = sc.nextDouble();
38         this.riel = this.baht*4000/30;
39         System.out.printf("\n%.2f Baht = %.0f RIEL\n", this.baht, this.riel);
40     }
41 }
```

```

41
42     void Display(){
43         System.out.println("=====");
44         System.out.println("Welcome to program Money Exchanges!");
45         System.out.println("\t1. Riels to Dollar");
46         System.out.println("\t2. Riels to Thai Baht");
47         System.out.println("\t3. Dollar to Riels");
48         System.out.println("\t4. Dollar to Thai Baht");
49         System.out.println("\t5. Thai Baht to Riels");
50         System.out.println("\t6. Exit");
51     }
52     public static void main(String[] args) {
53         MoneyExchange m = new MoneyExchange();
54         int ch;
55         Scanner sc = new Scanner(System.in);
56         do{
57             m.Display();
58             System.out.print("Choose an option: ");
59             ch = sc.nextInt();
60
61             switch(ch){
62                 case 1: m.RielsToDollar(); break;
63                 case 2: m.RielToBaht(); break;
64                 case 3: m.DollarToRiel(); break;
65                 case 4: m.DollarToBaht(); break;
66                 case 5: m.BahtToRiel(); break;
67                 default: System.out.println("Option Invaled!!");
68             }
69         }while(ch != 6);
70     }
71 }

```

Output

```

=====
Welcome to program Money Exchanges!
    1. Riels to Dollar
    2. Riels to Thai Baht
    3. Dollar to Riels
    4. Dollar to Thai Baht
    5. Thai Baht to Riels
    6. Exit
Choose an option: 1
Input money in RIELS: 6000

6000 RIELS = 1.50 USD
=====

```

```

=====
Welcome to program Money Exchanges!
    1. Riels to Dollar
    2. Riels to Thai Baht
    3. Dollar to Riels
    4. Dollar to Thai Baht
    5. Thai Baht to Riels
    6. Exit
Choose an option: 4
Input money in Dollar: 2.5

2.50 USD = 75.00 Baht
=====

```

```
1  import java.util.Scanner;
2
3  public class MaxNumber {
4
5      public static void main(String[] args) {
6          Scanner sc = new Scanner(System.in);
7          int maxNum = 0;
8          int num;
9          for(int i = 0; i<8; i++){
10             System.out.printf("Input Integer Number #d: ", i+1);
11             num = sc.nextInt();
12             if(num > maxNum) maxNum = num;
13         }
14         System.out.printf("\nThe maximum number is : %d\n\n\n", maxNum);
15     }
16 }
17
```

Output

```
Input Integer Number #1: 1
Input Integer Number #2: 10
Input Integer Number #3: 45
Input Integer Number #4: 23
Input Integer Number #5: 43
Input Integer Number #6: 12
Input Integer Number #7: 33
Input Integer Number #8: 40

The maximum number is : 45
```

TP04-06

```
1 import java.util.Scanner;
2
3 public class Shipping {
4     int far1, far2;
5     int letreForKm1, letreForKm2;
6     int weigth;
7
8     boolean isShipping(){
9         this.letreForKm1 = (this.weigth<=5000)?10*far1:((this.weigth<=10000)?20*far1:((this.weigth<=20000)?25*far1:35*far1));
10        this.letreForKm2 = (this.weigth<=5000)?10*far2:((this.weigth<=10000)?20*far2:((this.weigth<=20000)?25*far2:35*far2));
11        if(this.letreForKm1 <= 5000 && this.letreForKm2 <= 5000){
12            return true;
13        }
14        return false;
15    }
16
17    public static void main(String[] args) {
18        Scanner sc = new Scanner(System.in);
19        Shipping S = new Shipping();
20        System.out.println("A shipping ship need to transport goods from Point A to point C.");
21        System.out.print("Input Weight of shipping (Kg): ");
22        S.weigth = sc.nextInt();
23        System.out.print("Input the distance from A to B (Km): ");
24        S.far1 = sc.nextInt();
25        System.out.print("Input the distance from B to C (Km): ");
26        S.far2 = sc.nextInt();
27        if(S.weigth <= 30000){
28            if(S.isShipping()) System.err.printf("\nAgree to Shipping: %dL for A to B and %dL for B to C are less than 5000L\n", S.letreForKm1, S.letreForKm2);
29            else System.err.printf("\nNot Agree to Shipping: Becuase %dL for A to B or %dL for B to C is more than 5000L\n", S.letreForKm1, S.letreForKm2);
30        }
31        else{
32            System.err.print("\n The weight more than 30000kg, The ship cannot be loaded..\n");
33        }
34        System.out.println("\n");
35    }
36 }
37
```

Output

```
A shipping ship need to transport goods from Point A to point C.
Input Weight of shipping (Kg): 13000
Input the distance from A to B (Km): 200
Input the distance from B to C (Km): 200
```

```
Agree to Shipping: 5000L for A to B and 5000L for B to C are less than 5000L
```

```
A shipping ship need to transport goods from Point A to point C.
Input Weight of shipping (Kg): 25000
Input the distance from A to B (Km): 200
Input the distance from B to C (Km): 150
```

```
Not Agree to Shipping: Becuase 7000L for A to B or 5250L for B to C is more than 5000L
```

```
A shipping ship need to transport goods from Point A to point C.
Input Weight of shipping (Kg): 40000
Input the distance from A to B (Km): 120
Input the distance from B to C (Km): 300
```

```
The weight more than 30000kg, The ship cannot be loaded..
```

TP04-07

```
1  import java.util.Scanner;
2
3  public class LeapYear {
4      int year;
5      LeapYear(int year){
6          this.year = year;
7      }
8      boolean isLeapYear(){
9          if(this.year % 4 == 0){
10             if(this.year % 100 == 0){
11                 if(this.year % 400 == 0) return true;
12                 return false;
13             }
14             return true;
15         }
16         return false;
17     }
18     public static void main(String[] args) {
19         Scanner sc = new Scanner(System.in);
20         LeapYear y;
21         System.out.print("Input a year: ");
22         y = new LeapYear(sc.nextInt());
23         if(y.year < 1){
24             System.err.print("Error: Invalid input! Number should be bigger than 1\n");
25         }
26         else{
27             if(y.isLeapYear()){
28                 System.out.printf("\n%d is a leap year.\n\n", y.year);
29             }
30             else{
31                 System.out.printf("\n%d is not a leap year.\n\n", y.year);
32             }
33         }
34     }
35 }
36
```

Output

Input a year: 2020

2020 is a leap year.

Input a year: 1900

1900 is not a leap year.

Input a year: 2000

2000 is a leap year.

Challenge Exercise

```
1 import java.util.Scanner;
2
3 public class ChallengExercise {
4     int ch;
5     int Display(int n){
6         Scanner sc = new Scanner(System.in);
7         System.out.println("\n\n[----- MENU -----]");
8         System.out.println("\t1. Prime number");
9         System.out.println("\t2. Lucky number");
10        System.out.println("\t3. Reversing number");
11        System.out.println("\t4. Money exchange");
12        System.out.println("\t5. Max among 8 numbers");
13        System.out.println("\t6. Shipping");
14        System.out.println("\t7. Leap year");
15        System.out.print("Choose an option: "); n = sc.nextInt();
16        System.out.println("-----");
17        return this.ch = n;
18    }
19    public static void main(String[] args) {
20        int n;
21        ChallengExercise C = new ChallengExercise();
22        do{
23            n = C.Display(C.ch);
24            switch(n){
25                case 1: PrimeNumber.main(null); break;
26                case 2: LuckyNumber.main(null); break;
27                case 3: ReversingNumber.main(null); break;
28                case 4: MoneyExchange.main(null); break;
29                case 5: MaxNumber.main(null); break;
30                case 6: Shipping.main(null); break;
31                case 7: LeapYear.main(null); break;
32            }
33        }while(n != 0);
34    }
35 }
36
37
```

Output

```
[----- MENU -----]
    1. Prime number
    2. Lucky number
    3. Reversing number
    4. Money exchange
    5. Max among 8 numbers
    6. Shipping
    7. Leap year
Choose an option: 2
-----
Program for testing for lucky number.
Please input 6 digits number: 123402

123402 is lucky number.
```

