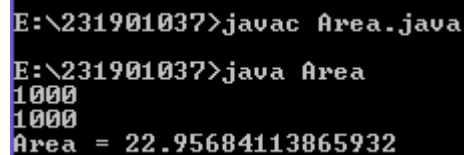## Tutorial 1.1

1. Create a program that reads the length and width of a farmer's field from the user in feet. Display the area of the field in acres. Hint: There are 43,560 square feet in an acre. Sample Input 1000 1000
Sample Output 22.95684113865932 acres

```java
import java.util.Scanner;
class Area {
public static void main (String args[])
{
Scanner obj = new Scanner(System.in);
int l = obj.nextInt();
int w = obj.nextInt();
double a = l*w;
double f = (a)/43560;
System.out.println("Area = "+f);
}
}
```

OUTPUT:


```
E:\231901037>javac Area.java

E:\231901037>java Area
1000
1000
Area = 22.95684113865932
```

2. An online retailer sells two products: widgets and gizmos. Each widget weighs 75 grams. Each gizmo weighs 112 grams. Write a program that reads the number of widgets and the number of gizmos from the user. Then your program should compute and display the total weight of the parts.
Sample Input: 10 20
Sample Output: The total weight of all these widgets and gizmos is 2990 grams.

```java
import java.util.Scanner;
class Weight {
public static void main (String args[])
{
Scanner obj = new Scanner(System.in);
int w = obj.nextInt();
int g = obj.nextInt();
int a = 75*w + 112*g;
System.out.println("The total weight of all these widgets and gizmos is "+a+" grams.");
}
}
```

```
E:\231901037>javac Weight.java

E:\231901037>java Weight
22
30
The total weight of all these widgets and gizmos is 5010 grams.
```

3. In many jurisdictions, a small deposit is added to drink containers to encourage people to recycle them. In one particular jurisdiction, drink containers holding one liter or less have a $0.10 deposit and drink containers holding more than one liter have a $0.25 deposit. Write a program that reads the number of containers of each size(less and more) from the user. Your program should continue by computing and displaying the refund that will be received for returning those containers. Format the output so that it includes a dollar sign and always displays exactly two decimal places.
Sample Input 10 20
Sample Output Your total refund will be $6.00.

```java
import java.util.Scanner;
class RefundBill{
public static void main (String args[]){
Scanner obj = new Scanner(System.in);
float l = obj.nextFloat();
float m = obj.nextFloat();
float r = l*0.10f + m*0.25f ;
System.out.print("Your total refund will be " + "$" + String.format("%.2f",r));
}
}
```

```
E:\231901037>javac RefundBill.java

E:\231901037>java RefundBill
10
20
Your total refund will be $6.00
```

4. Write a program to find whether the given input number is Odd. If the given number is odd, the program should return 2 else It should return 1.

```java
import java.util.Scanner;

class IfOdd {

public static void main (String args[]) {

Scanner obj = new Scanner(System.in);

int n = obj.nextInt();

int r = (n%2 == 0) ? 1:2;

System.out.println("The result :"+r);

}

}
```

```
E:\231901037>java IfOdd
22
The result :1

E:\231901037>javac IfOdd.java

E:\231901037>java IfOdd
31
The result :2
```

5. Write a program that returns the last digit of the given number. Last digit is being referred to the least significant digit i.e. the digit in the ones (units) place in the given number. The last digit should be returned as a positive number.
   For example,
if the given number is 197, the last digit is 7. if the given number is -197, the last digit is 7

```
import java.util.Scanner;
class LastDigit {
public static void main (String args[]) {
Scanner obj = new Scanner(System.in);
int n = obj.nextInt();
int l = Math.abs(n)%10 ;
System.out.println("The last digit is "+l);
}
}
```

```
E:\231901037>javac LastDigit.java

E:\231901037>java LastDigit
256
The last digit is 6
```

6. Rohit wants to add the last digits of two given numbers.
   For example,
   If the given numbers are 267 and 154, the output should be 11.
   Below is the explanation:
   Last digit of the 267 is 7
   Last digit of the 154 is 4
   Sum of 7 and 4 = 11
   Write a program to help Rohit achieve this for any given two numbers.
   Note: Tile sign of the input numbers should be ignored.
   if the input numbers are 267 and 154, the sum of last two digits should be 11 if
   the input numbers are 267 and -154, the slim of last two digits should be 11 if
   the input numbers are -267 and 154, the sum of last two digits should be 11 if
   the input numbers are -267 and -154, the sum of last two digits should be 11

   ```
   import java.util.Scanner;
   class LastDigitSum {
   public static void main (String args[]) {
   Scanner obj = new Scanner(System.in);
   ```

```
    int n = obj.nextInt();
    int x = obj.nextInt();
    int l = Math.abs(n)%10 + Math.abs(x)%10 ;
    System.out.println("The sum is "+l);
    }
}
```

```
E:\231901037>javac LastDigitSum.java

E:\231901037>java LastDigitSum
256
148
The sum is 14
```

7. Complete the program to convert days into years, month and days. (Ignoring leap year and considering 1 month is 30 days)
   Input 375 Output YEARS: 1 MONTH: 0 DAYS: 10
   Input 200 Output YEARS: 0 MONTH: 6 DAYS: 20

```
    import java.util.Scanner;
    class Calendar {
    public static void main (String args[]) {
    Scanner obj = new Scanner(System.in);
    int d = obj.nextInt();
    int y = d>365 ? d/365 : 0;
    int r = d>365 ? d%365 : d;
    int m = r>30 ? r/30 : 0;
    int x = r>30 ? r%30 : r;
    System.out.println("YEARS:"+y+" MONTHS:"+m+" DAYS:"+x);
    }
}
```

```
E:\231901037>javac Calendar.java

E:\231901037>java Calendar
367
YEARS:1 MONTHS:0 DAYS:2

E:\231901037>javac Calendar.java

E:\231901037>java Calendar
543
YEARS:1 MONTHS:5 DAYS:28
```

8. Write a program that returns the second last digit of the given number. Second last digit is being referred 10the digit in the tens place in the given number. For example, if the given number is 197, the second last digit is 9. Note1 - The second last digit should be returned as a positive number. i.e. if the given number is -197, the second last digit is 9. Note2 - If the given number is a single digit number, then the second last digit does not exist. In such cases, the program should return -1. i.e. if the given number is 5, the second last digit should be returned as 0.

import java.util.Scanner;

```
class SecondLast {

public static void main (String args[]) {

Scanner obj = new Scanner(System.in);

int n = obj.nextInt();

int x = Math.abs(n);

int l = (x<10) ? -1 : (x/10)%10;

System.out.println("The number is "+l);

}

}
```

```
E:\231901037>javac SecondLast.java

E:\231901037>java SecondLast
256
The number is 5
```