



Programme	: BTech. CSE Core	Semester	: Win 2021-22
Course	: Java Programming	Code	: CSE1007
Faculty	: Dr. Pradeep K	Slot	: D2+TD2
Name	: Hariket Sukesh Kumar Sheth	Register No.	: 20BCE1975

## Access Specifiers in Java

- a) Default: Declarations are visible only within the package (package private)
- b) Private: Declarations are visible within the class only
- c) Protected: Declarations are visible within the package or all subclasses
- d) Public: Declarations are visible everywhere

1. Write a program by using 'default' access specifier

```
package exercise1;
import java.util.*;

class Sample{
    Scanner s= new Scanner(System.in);
    int data;
    void multiply(){
        System.out.println("Enter the number: ");
        data=s.nextInt();
        data = data*2;
    }
}

public class Exercise1 {
    public static void main(String[] args) {
        Sample s1 = new Sample();
        s1.multiply();
        System.out.println("The result after multiplication: "+s1.data);
    }
}
```

## OUTPUT:

```
run:
Enter the number:
5
The result after multiplication: 10
BUILD SUCCESSFUL (total time: 1 second)
|
```

2. Write a program by using 'private' access specifier

```
package exercise1;
import java.util.*;

class Sample{
    Scanner s= new Scanner(System.in);
    private int data;
    void multiply(){
        System.out.println("Enter the number: ");
        data=s.nextInt();
        data = data*2;
        System.out.println("The result after multiplication: "+data);
    }
}

public class Exercise1 {
    public static void main(String[] args) {
        Sample s1 = new Sample();
        s1.multiply();
        System.out.println("The result after multiplication: "+s1.data);
    }
}
```

## OUTPUT:

```
run:
[Exception in thread "main" java.lang.RuntimeException: Uncompilable code - data has private access in exercise1.Sample
at exercise1.Exercise1.main(Exercise1.java:1)
```

```
package exercise1;
import java.util.*;

class Sample{
    Scanner s= new Scanner(System.in);
    private int data;
    void multiply(){
        System.out.println("Enter the number: ");
        data=s.nextInt();
        data = data*2;
        System.out.println("The result after multiplication: "+data);
    }
}

public class Exercise1 {
    public static void main(String[] args) {
        Sample s1 = new Sample();
        s1.multiply();
    }
}
```

## OUTPUT:

run:

Enter the number:

8

The result after multiplication: 16

**BUILD SUCCESSFUL (total time: 7 seconds)**

|

3. Write a program by using 'protected' access specifier

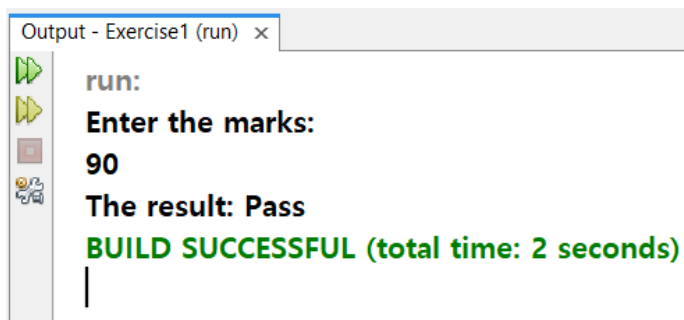
```
package exercise1;
import java.util.*;

class College{
    Scanner s= new Scanner(System.in);
    protected int marks;
    void multiply(){
        System.out.println("Enter the marks: ");
        marks=s.nextInt();
    }
}

class Result extends College{
    void out(){
        if(marks>50)
            System.out.println("The result: Pass");
        else
            System.out.println("The result: Fail");
    }
}

public class Exercise1 {
    public static void main(String[] args) {
        Result r1 =new Result();
        r1.multiply();
        r1.out();
    }
}
```

**OUTPUT:**



```
Output - Exercise1 (run) x
run:
Enter the marks:
90
The result: Pass
BUILD SUCCESSFUL (total time: 2 seconds)
```

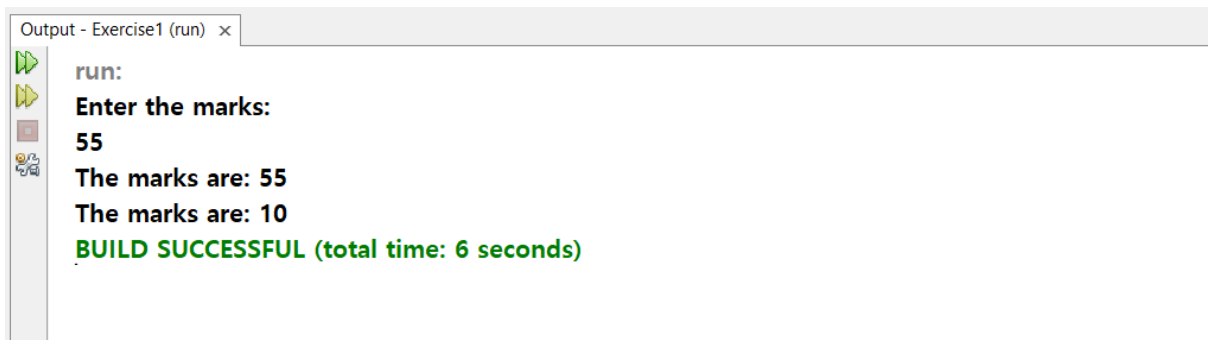
4. Write a program by using 'public' access specifier

```
package exercise1;
import java.util.*;

class College{
    Scanner s= new Scanner(System.in);
    public int marks;
    void in(){
        System.out.println("Enter the marks: ");
        marks=s.nextInt();
    }
    void display(){
        System.out.println("The marks are: "+marks);
    }
}

public class Exercise1 {
    public static void main(String[] args) {
        College c1 = new College();
        c1.in();
        c1.display();
        c1.marks = 10;
        c1.display();
    }
}
```

### OUTPUT:



```
Output - Exercise1 (run) x
run:
Enter the marks:
55
The marks are: 55
The marks are: 10
BUILD SUCCESSFUL (total time: 6 seconds)
```