VIT Vidyalankar Institute of Technology Accredited A+ by NAAC	DEPARTMENT OF COMPUTER ENGINEERING

Experiment No. 11

Semester	S.E. Semester III – Computer Engineering
Subject	Skill Based Lab Course: OOP with Java (CSL304)
Subject Professor In-charge	Prof. Swapnil S. Sonawane
Assisting Teachers	Prof. Swapnil S. Sonawane

Student Name	HERAMBA PRASANNA LIMAYE
Roll Number	19102A0033

Title: Program on super and final keyword

Objective:
To implement the concept of inheritance and interfaces.

Explanation:

SUPER keyword:

The super keyword refers to superclass (parent) objects.

It is used to call superclass methods, and to access the superclass constructor.

The most common use of the super keyword is to eliminate the confusion between superclasses and subclasses that have methods with the same name.

To understand the super keyword, you should have a basic understanding of Inheritance and Polymorphism.

FINAL keyword :

Final is a non-access modifier for Java elements. The final modifier is used for finalizing the implementations of classes, methods, and variables.

A final variable can be explicitly initialized only once. A reference variable declared final can never be reassigned to refer to a different object.

However, the data within the object can be changed. So, the state of the object can be changed but not the reference.

A final method cannot be overridden by any subclasses. As mentioned previously, the final modifier prevents a method from being modified in a subclass.

The main intention of making a method final would be that the content of the method should not be changed by any outsider.

Program Code:

SUPER code:

```
import java.util.*;
class student
{
String name;
void accept()
{
Scanner t=new Scanner(System.in);
System.out.println("Enter name=");
name=t.next();
}
void display()
{
System.out.println("Name="+name);
}
}
```

```
class test extends student
{
int m1,m2;
void accept()
{
super.accept();
Scanner t=new Scanner(System.in);
System.out.println("Enter m1 and m2=");
m1=t.nextInt();
m2=t.nextInt();
}
void display()
{
super.display();
System.out.println("m1="+m1);
System.out.println("m2="+m2);
}
}
interface sport
{
int score=10;
void show();
}
class result extends test implements sport
{
int total;
public void show()
{
System.out.println("Score="+score);
}
void display()
{
super.display();
total=m1+m2+score;
System.out.println("Total="+total);
}
}
class practiceResultMsgCp26
{
public static void main(String args[])
{
result r=new result();
```

```
r.accept();
r.show();
r.display();
}
}
```

FINAL keyword :

```
class Bike
{
 final void run1(){
System.out.println("running");
}
 }

class Bike9 extends Bike
{
final int speedlimit=90;//final variable

void run(){
 speedlimit=400;
}

void run1(){System.out.println("running safely with 100kmph");
}

public static void main(String args[])
{
Bike9 obj=new Bike9();
obj.run();

 obj.run1();
}
}//end of class
//above program gives error when executed
```

Output:

Command Prompt

```
Microsoft Windows [Version 10.0.18362.1082]
(c) 2019 Microsoft Corporation. All rights reserved.

C:\Users\HERAMBA LIMAYE>cd..

C:\Users>cd..

C:\>cd

C:\>cd C:\java store

C:\java store>set path=D:\jdk\bin

C:\java store>javac practiceResultMsgCp26.java

C:\java store>java practiceResultMsgCp26
Enter name=
h
Enter m1 and m2=
20
25
Score=10
Name=h
m1=20
m2=25
Total=55

C:\java store>
```

```
C:\java store>javac bike9.java
bike9.java:13: error: cannot assign a value to final variable speedlimit
 speedlimit=400;
 ^
bike9.java:16: error: run1() in Bike9 cannot override run1() in Bike
void run1(){System.out.println("running safely with 100kmph");
     ^
  overridden method is final
2 errors

C:\java store>
```

Conclusion:

- Super keyword is the special feature of java for which it also did not support full multiple inheritance directly. Super is very useful for using parent class methods with same name.
- Final keyword is used for making a variable act like constant and also for making a method incompatible towards overriding.It helps to increase security and make variables constants under some needful circumstances.
