JAVA Lab
Lab Experiment No 4

Roll No.___ Batch_____

Aim: Write a JAVA program to implement the concept of inheritance.

Detailed problem statement:

1. A University has two types of students
   — Graduate students and
   Research students.
2. The University maintains the record of **name, age and programme** (Full time or Part time) of every student.
3. For graduate students, additional information like **percentage of marks and stream** (like science, commerce, etc.) is recorded;
4. For research students, additionally, **specialization and years of working experience**, if any, is recorded.
5. Each class has a constructor. The constructor of subclasses makes a call to the constructor of the superclass. **(super keyword)**
6. Assume that every **constructor has the same number of parameters as the number of instance variables.**
7. In addition, every subclass has a method that may update the instance variable values of that subclass.
8. All the classes have a function display_student_info( ), the subclasses must **override** this method of the base class.
9. Every student is either a graduate student or a research student.
10. Perform the following tasks for the description given above using Java :
    (i) Create the three classes with proper instance variables and methods, **with suitable inheritance.**
    (ii) Create at least one parameterised constructor for each class.
    (iii) Implement the **display_student_info( )** method in each class.

Theory:

1. What is inheritance?
2. Types of inheritance supported in Java. (Each type in brief only)
3. Why is multiple inheritance not supported in Java?
4. Usage of Super- to call superclass Constructor, to access members of super class(variables and methods).
5. Method overriding

Program: code

Output: Snapshot of output (please take output with minimum two possible input