1. Create an Account class by initializing the global variables acc_no, name, amount with the following methods insert, deposit, withdraw and check status. Implement the above by specifying the instance variables along with necessary parameters.

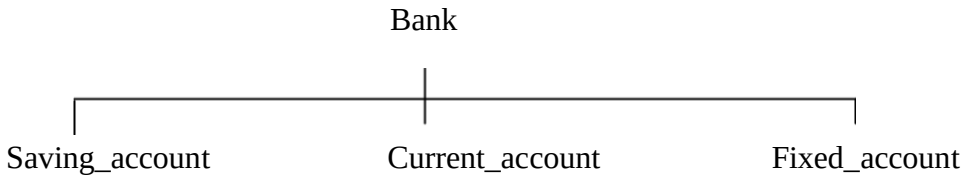
2. Write a Java program to implement overloading and overriding concepts.

3. Create a java class with shape with constructor to initialize parameter "dimension". Now create three sub classes of shape with following methods.

1. "Circle" with methods to calculate the area and circumference of a circle with dimension as radius.
2. "Square" with methods to calculate the area and length of a square of a square with dimension as length of one side.
3. "Sphere" with methods to calculate the surface area and volume of a sphere with dimension as radius of sphere.

Write appropriate main method to create object of each class and test every method.

4. Write a java program to implement the following class hierarchy



Your implementation should include the following

(i) Proper constructor for all the classes
(ii) Polymorphic function "Find_balance" to find available balance in account.

5. Develop a "library" interface which has draw_book(), return_book(), check_status(), reserve_book( ) methods. All the methods tagged with public. Create a class which implements above interface by implementing all of its methods.

6 a). Define exception, vowel exception, blank exception, exit exception. Write another class test which reads the character from command line .If it is a vowel throws vowel exception, if it is blank throw blank exception and for a character X throw an exit exception and terminate the program for any other character and display "valid character".

6 b). Write an exception class for a time of day that can accept only 24 hour representation of clock hours. Write a java program to input various formats of timings and throw suitable error messages.

7 a). Write a java Program to count vowels, consonants, digits and spaces in a given String.
7 b). Write a java program to find longest common sub string in a string array.

8. Write a java program to perform arithmetic operations using packages.

11. Write a java program that connects to a database using JDBC for Payroll processing.