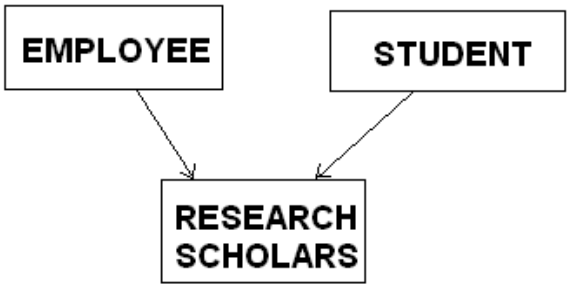
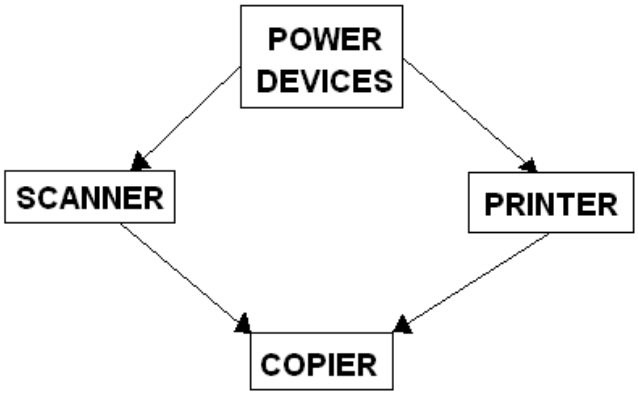
9. Programs using Inheritance

***CO3**: Implement the concept of reusability and data security*

1. Write a Simple C++ program to implement ***Single inheritance***.
2. Create a 'MATRIX' class of size m X n. Derive a class 'MAT' from MATRIX class .Add a member function to overload '*' operator to multiply two objects. (Single Inheritance)
3. Write a Simple C++ program to implement ***Multilevel inheritance***.
4. Make a class Employee with a name and salary. Make a class Manager inherit from Employee. Add an instance variable, named department, of type string. Have a method to print the manager's name, department and salary. Make a class Executive inherit from Manger. Have a method to print string 'Executive' followed by the information stored in the Manager super class object. Supply a test program that tests these classes and methods.
5. Write a Simple C++ program to implement ***Multiple inheritance.***
6. Write a C++ program to define three classes X**, *Y and Z***. Each class contains one character array as a data member. Apply multiple inheritance. Concatenate strings of classes X and Y and store it in the class Z. Show all the three Strings. Use necessary get and put methods.
7. Write a C++ program to implement the Multiple inheritance for the following example.



8. Write a Simple C++ program to implement ***Hierarchical inheritance***.
9. Declare a class of ***Vehicle***. Derived classes are ***two-wheeler, three-wheeler and four- wheeler***. Display the properties of each type of vehicle using member functions of classes.
10. Write a Simple C++ program to implement ***Multipath inheritance***.
11. Write a C++ program to implement the following example.



12. Write a Simple C++ program to implement ***Hybrid inheritance***.