ADS LAB 05

NAME : Jagadeesh R
REGNO : 2021506314

Runtime polymorphism

Source code :

```cpp
#include <iostream>
#include<string.h>
using namespace std;
class stationery {
    private:
    int numberofproduct = 5;
    public:
     string pr1 = "Ball point pen";
     string pr2 = "Notebook";
     string pr3 = "Chart";
     string pr4 = "Pencil";
     string pr5 = "Book";
};
class store: public stationery {
 public:
 void book() {
    cout<<"The products in the stationery is : "<<endl;
    cout<<pr1<<endl;
    cout<<pr2<<endl;
    cout<<pr3<<endl;
    cout<<pr4<<endl;
    cout<<pr5<<"\n"<<endl;;
    }
};
//Run time Polymorphism using derived class.
class discount {
    public:
    virtual void pricediscount() {
```

```cpp
        cout<<"The stationery store has Rs.10 discount for every product
!!"<<endl;
    }
};
class product: public discount {
    public:
    void pricediscount() {
        cout<<"The discount price will be discounted to the products price when
you buy it !!"<<endl;
    }
};
//Runtime Polymorphism with Data Members.
class pen {
    public:
    string color = "Black";
};
class stickpen: public pen {
 public:
    string color = "Blue";
};
int main() {
    store s = store();
    s.book();
    discount * d;
    discount dc;
    product pr;
    d = &dc;
    d -> pricediscount();
    pen p= stickpen();
    cout<<"\n"<<p.color<<endl;
    return 0;
}
```

OUTPUT :

```
/tmp/vh7n6XtaBy.o
The products in the stationery is :
Ball point pen
Notebook
Chart
Pencil
Book

The stationery store has Rs.10 discount for every product !!

Black
```
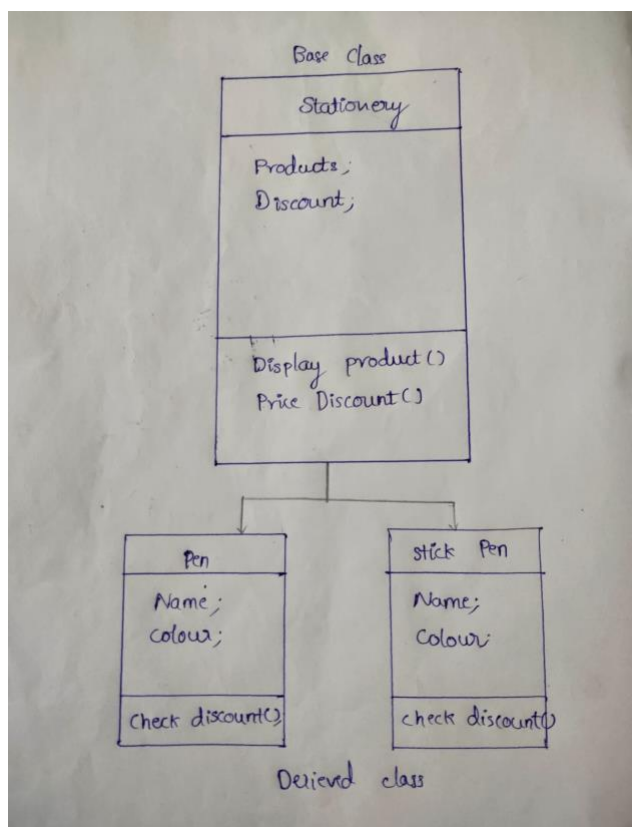
USECASES :

Usecase for polymorphism:

Usecase for inheritance :

```
+-----------------------------------+
|          Bill Payment             |
+-----------------------------------+
|  Item name;                       |
|  MRP Price;                       |
|  Bought price;                    |
|  offer price;                     |
|  Total price;                     |
+-----------------------------------+
|  display ();                      |
|  price calculation ();            |
|                                   |
+-----------------------------------+
```