Practical-7.(b)

Aim: Write a C++ program to design a class representing the information regarding digital library(books,tape: book & tape should be separate classes having the base class as media).The class should have the functionality for adding new item,issuing,deposit,etc.The program should use the runtime polymorphism.

Algorithm:(i)Start

(ii)class media{..};class book{..};class tape{..};void tape{..};

(iii)Main function

(iv)Print the result

(v)Stop

Theory: In this practical,we will design a class representing the information regarding digital library.

Program:

```
#include <iostream>
#include<string.h>
class media
{
   protected:
   char title[50];
```

```
    float price;
    public:
    media(char *s,float a)
    {
        strcpy(title,s);
        price=a;
    }
    virtual void display(){}
};
class book:public media
{
    int pages;
    public:
    book(char *s,float a,int p):media(s,a)
    {
        pages=p;
    }
    void display();
};
class tape:public media
{
```

```
    float time;
    public:
    tape(char*s,float a,float t):media(s,a)
    {
        time=t;
    }
    void display();
};
void book::display()
{
    std::cout<<"\n Title: "<<title;
    std::cout<<"\n Pages: "<<pages;
    std::cout<<"\n Price: "<<price;
}
void tape::display()
{
    std::cout<<"\n Title: "<<title;
    std::cout<<"\n Play Time: "<<time<<"mins";
    std::cout<<"\n Price: "<<price;
}
int main()
```

```
{
   std::cout<<"08_Rabin Nadar"<<std::endl;
   char*title=new char[30];
   float price,time;
   int pages;
   std::cout<<"\nEnter Book Details\n";
   std::cout<<"\nTitle: ";
   std::cin>>title;
   std::cout<<"\nPrice: ";
   std::cin>>price;
   std::cout<<"\nPages: ";
   std::cin>>pages;
   book book1(title,price,pages);
   std::cout<<"\nEnter Tape Details";
   std::cout<<"\nTitle: ";
   std::cin>>title;
   std::cout<<"\nPrice: ";
   std::cin>>price;
   std::cout<<"\nPlay Time(mins): ";
   std::cin>>time;
   tape tape1(title,price,time);
```

```
    media*list[2];
    list[0]=&book1;
    list[1]=&tape1;
    std::cout<<"\nMedia Details";
    std::cout<<"\n.....Book.....";
    list[0]->display();
    std::cout<<"\n.....Tape.....";
    list[1]->display();
    return 0;
}
```

Output:

```
Output
/tmp/57m98X3KTS.o
08_Rabin Nadar
Enter Book Details
Title: Wings on Fire
Price: 450
Pages: 700
Enter Tape Details
Title: Old Hits
Price: 100
Play Time(mins): 150
Media Details
..........Book.......
 Title: Wings on Fire
 Pages: 700
 Price: 450
..........Tape.......
 Title: Old Hits
 Play Time: 150 mins
 Price: 100
```

Conclusion:

We have successfully written the code and executed it.