PROBLEM [20 MARKS]

You are required to develop an interactive system that allows user to buy most wanted DVD. Include these following features:

a.   Allow user to select more than one option for listed DVD.   [5 marks]
b.   Ask user to insert the payment for the selected DVDs.   [2 marks]
c.   Give balance if the payment inserted is more than the price.   [3 marks]
d.   If the payment inserted is not enough, ask user to insert more money.   [5 marks]
e.   Input validation   [2 marks]

Use selection control structure for decision making on the options given and for input validation. Provide input validation "Invalid option" that ensure user is not trying to enter more than 5 because we had only 5 options. Use loop control structure that allows user to buy as many DVDs as needed and keep asking user to insert more money until the payment is enough.

The prototype for your program's demo as below: [3 marks]

```
################################
*      DVDs VENDING MACHINE       *
*      --------------------       *
*      [1] HARRY PORTTER          *
*      [2] INK HEART              *
*      [3] TRANSFORMER II         *
*      [4] BEDTIME STORIES        *
*      [5] No thank you!          *
################################

Please enter your choice [1-5]: 1
HARRY PORTTER Price RM20.00

Please enter your choice [1-5]: 2
INK HEART Price RM23.00

Please enter your choice [1-5]: 6
Invalid Option!

Please enter your choice [1-5]: 5
No thank you!

Total is RM43.00

Please enter your payment: RM40
Sorry, payment is not enough..
Please enter more money: RM10
Please take your balance: RM7
Thank you..
```

```cpp
#include <cstdlib>
#include <iostream>

using namespace std;

int main(int argc, char *argv[])
{
    float payment,pay,total,balance, price;
    int choice=0;

    cout << "##########################"<<endl;
    cout << "\n* DVDs VENDING MACHINE \t*\n";
    cout << "* ---------------------*" <<endl;
    cout <<"* [1]  HARRY PORTTER\t* \n";
    cout <<"* [2]  INK HEART\t\t* \n";
    cout <<"* [3]  TRANSFORMER II\t* \n";
    cout <<"* [4]  BEDTIME STORIES\t* \n";
    cout <<"* [5]  No thank you!\t* \n";
    cout << "* ---------------------*" <<endl;
    cout << "\n##########################"<<endl;

    while (choice !=5)
    {
     do
       {
       cout <<"\nPlease enter your choice [1-5]: ";
       cin >> choice;
       if (choice < 0 || choice >5)
           {
           cout <<"\nInvalid Option!";
           cout <<"\nPlease re-enter your choice [1-5]: ";
           cin >> choice;
           }
     } while (choice<1 || choice>5);
```

- Display options for user to make their decisions.

- **Loop control** structure that allows user to buy as many DVDs as needed
- Allow user to select more than one option for listed DVD.
- Provide input validation "*Invalid option*" that ensure user is not trying to enter more than 5 because we had only 5 options

```cpp
switch (choice)
{
case 1:
     price = 20.00;
     total+=price;
     cout<<"\nHARRY PORTTER Price RM20.00"<<endl;
    break;
case 2:
     price = 23.00;
     total+=price;
     cout<<"\nINK HEART Price RM23.00"<<endl;
    break;
case 3:
     price = 10.00;
     total+=price;
     cout<<"\nTRANSFORMER II Price RM10.00"<<endl;
    break;
case 4:
     price = 20.00;
     total+=price;
     cout<<"\nBEDTIME STORIES Price RM20.00"<<endl;
    break;
default: cout<<"\nNo Thank You."<<endl;
 }

}


cout <<"\nTotal is: RM"<<total<<endl;

cout <<"\nPlease enter your payment: RM";
cin>>payment;
if (payment>total)
{
balance=payment - total;
cout <<"\nPlease take your balance: RM"<<balance<<endl;
cout <<"\nThank you.."<<endl;
}
```

Use **selection control** structure for decision making on the options given.

Give balance if the payment inserted is more than the price.

```cpp
    else if (payment<total)
    {
     do{
     cout <<"Current Payment: RM"<<payment<<endl;
     cout <<"\nSorry, payment is not enough..";
     cout <<"\nPlease enter more payment: RM";
     cin>>pay;
     payment+=pay;
     }while (payment<total);
     balance=payment - total;
    cout <<"\nPlease take your balance: RM"<<balance<<endl;
    cout <<"\nThank you.."<<endl;
    }
    else
    cout <<"\nThank you.."<<endl;

    system("PAUSE");
    return 0;
}
```

- If payment less than price use **Loop control** structure for keep asking user to insert more money until the payment is enough

Output:

```
###########################
* DVDs VENDING MACHINE  *
* ----------------------*
* [1] HARRY PORTTER      *
* [2] INK HEART          *
* [3] TRANSFORMER II     *
* [4] BEDTIME STORIES    *
* [5] No thank you!      *
* ----------------------*

###########################
Please enter your choice [1-5]: 1

HARRY PORTTER Price RM20.00

Please enter your choice [1-5]: 2

INK HEART Price RM23.00

Please enter your choice [1-5]: 5

No Thank You.

Total is: RM43

Please enter your payment: RM30
Current Payment: RM30

Sorry, payment is not enough..
Please enter more payment: RM10
Current Payment: RM40

Sorry, payment is not enough..
Please enter more payment: RM7

Please take your balance: RM4

Thank you..
```