TASK-08

Create a menu driven program for Queues.
Use class based implementation for Queues. Take inputs from user.

Code:

- **queue.h file**

```
#include<iostream>
using namespace std;
class doubleQueue
{

        private:
                double *queueArray;
                int queuesize;
                int front;
                int rear;
        public:
        doubleQueue(int size)
        {
                queueArray=new double(size);//double[size]
                queuesize=size;
                front=-1;
                rear=-1;
        }
        ~doubleQueue()
        {
                delete []queueArray;
                }
                bool isFull()
                {
                        if(rear == queuesize-1)
                        {
                                return true;
```

```
        }
        else
        {
                return false;
        }
}
bool isEmpty()
{
        if(front==-1 && rear==-1)
        {
                return true;
        }
        else
        {
                return false;
        }
}
void ENQUEUE(double value)
{
        if(isFull())
        {
                cout<<"Queue is full :"<<endl;
        }
        else
        {
                if(front==-1)
                {
                        front=0;
                }
                rear++;
        cout<<"Insert number:";
        cin>>queueArray[rear];
        }
}
```

```
void DEQUEUE()
{
	if(isEmpty())
	{
		cout<<"Queue is Empty"<<endl;
	}
	else
	{
		cout<<queueArray[front]<<"value  is  delete
from queue"<<endl;
		if(front==rear)//only one item in queue
		{
			front=rear=-1;
		}
		else
		{
			front++;
		}
	}
}
void DISPLAY()
{
	if(isEmpty())
	{
		cout<<"list is empty"<<endl;
	}
	else
	{
		cout<<"values in Queue are"<<endl;
		for(int i=front;i<=rear;i++)
		{
			cout<<queueArray[i]<<"\t"<<endl;
		}
	}
```

```
        }
};
```

- **queue.cpp file**

```
#include "queue.h"
#include <iostream>
using namespace std;

int main()
{
 int size, num, choice, value;
 cout << "Enter the Size of Queue: ";
 cin >> size;
 doubleQueue dq(size);

 do {
  cout << "\n\nPress 1 to insert the number into the Queue.\n";
  cout << "Press 2 to delete the number from the Queue.\n";
  cout << "Press 3 to DISPLAY the Queue.\n";
  cout << "Press 4 to Exit.\n";
  cout << "\n\nEnter Your Choice: ";
  cin >> choice;

  if (choice == 1)
      {
   cout << "Enter the total numbers you want to inert: ";
   cin >> num;
   for (int i = 0; i < num; i++)
       {
    dq.ENQUEUE(value);
   }
  }
      else if (choice == 2)
      {
```

```
      dq.DEQUEUE();
    }
        else if (choice == 3)
        {
    dq.DISPLAY();
    }
        else if (choice == 4)
        {
    break;
    }
        else
        {
    cout << "Invalid Choice...!!";
    }

  }
  while (true);
}
```