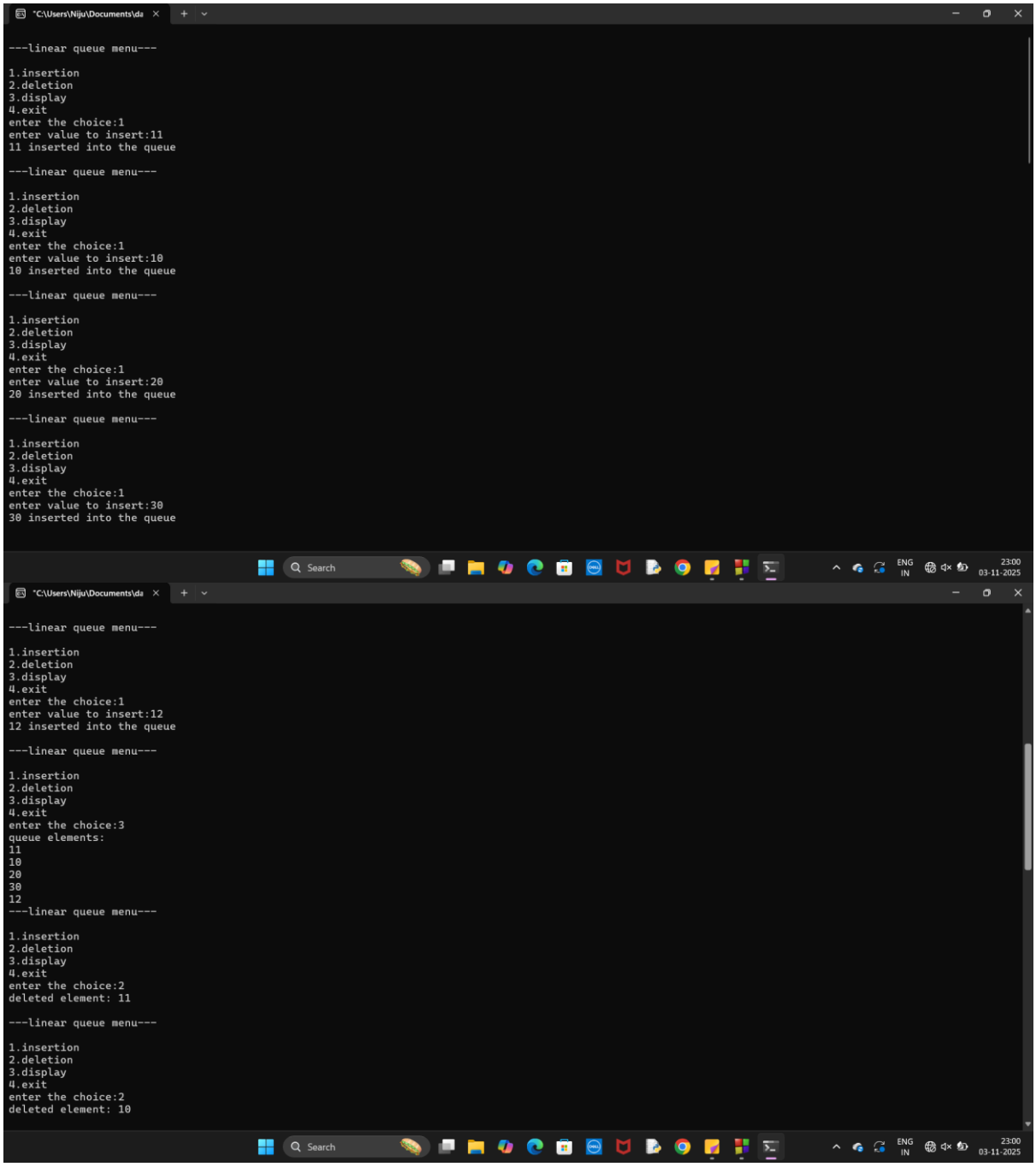
Write a program to stimulate the working of queue of integers using an array.Provide the following operations: insert,delete,display.
The program should print appropriate for queue empty and queue overflow conditions.

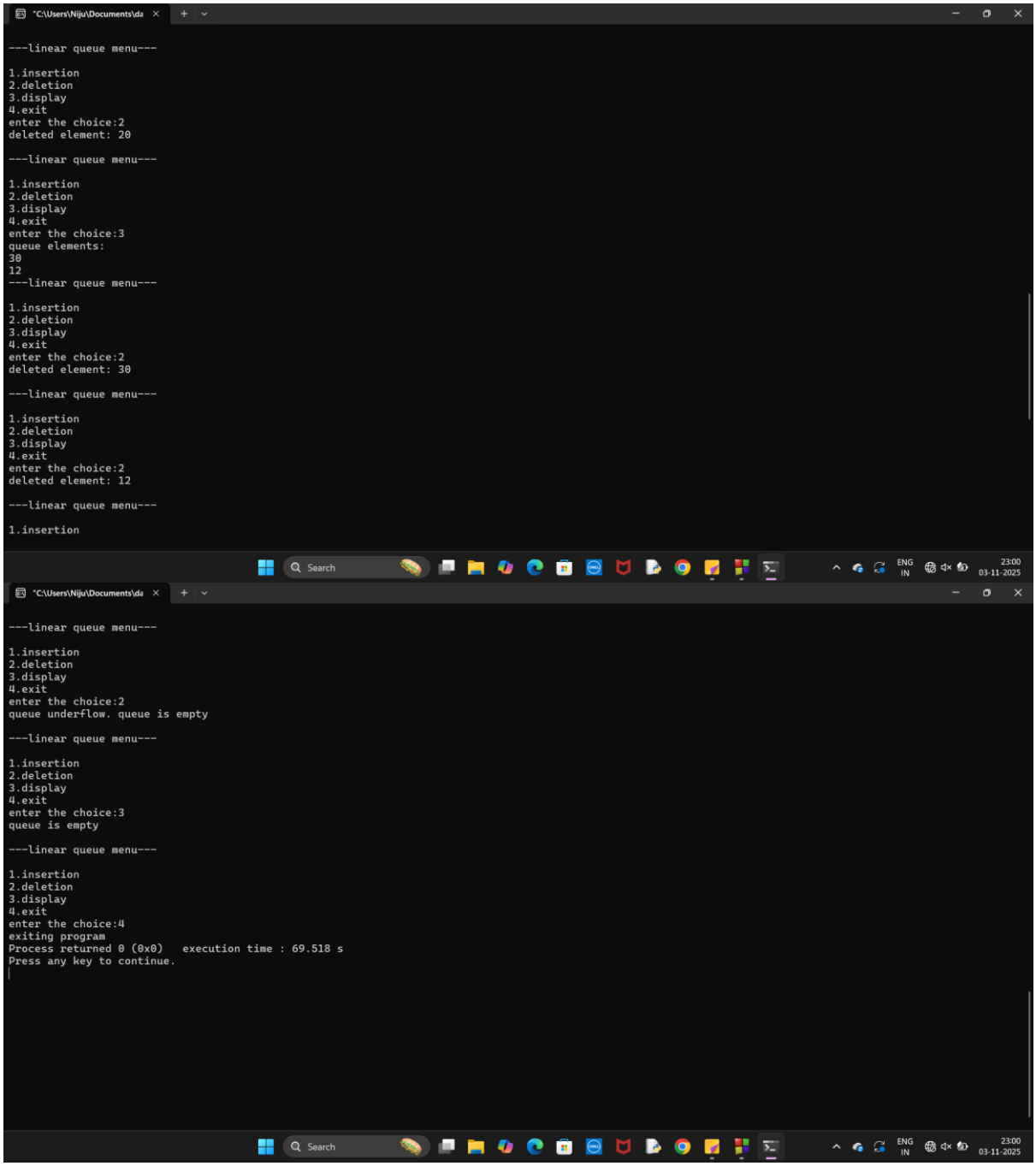
```
//operations over linear queue
#include<stdio.h>
#include<stdlib.h>
#define max 5
int queue[max];
int front=-1,rear=-1;

void insertion(int value)
{
  if(rear==max-1)
  {
    printf("queue overflow.cannot insert %d\n",value);
  }
  else
  {
    if(front==-1)
    {
      front=0;
    }
    rear++;
    queue[rear]=value;
    printf("%d inserted into the queue\n",value);
  }
}
void deletion()
{
  if(front==-1||front>rear)
  {
    printf("queue underflow. queue is empty\n");
  }
  else
  {
    printf("deleted element: %d\n",queue[front]);
    front++;
  }
}
void display()
{
  if(front==-1||front>rear)
  {
    printf("queue is empty\n");
  }
  else
  {
    printf("queue elements:");
```

```
    for(int i=front;i<=rear;i++)
     {
        printf(" \n%d",queue[i]);
     }
  }
}
int main()
{
  int choice,value;
  while(1)
  {
    printf("\n---linear queue menu---\n");
    printf("\n1.insertion \n2.deletion \n3.display \n4.exit \n");
    printf("enter the choice:");
    scanf("%d",&choice);
    switch(choice)
    {
      case 1:
        printf("enter value to insert:");
        scanf("%d",&value);
        insertion(value);
      break;
      case 2:
        deletion();
        break;
      case 3:
        display();
        break;
      case 4:
        printf("exiting program");
        exit(0);
      default:
        printf("invalid choice. please tyr again\n");
    }
  }
  return 0;
}
```


"C:\Users\Niju\Documents\da
---linear queue menu---
1.insertion
2.deletion
3.display
4.exit
enter the choice:1
enter value to insert:11
11 inserted into the queue
---linear queue menu---
1.insertion
2.deletion
3.display
4.exit
enter the choice:1
enter value to insert:10
10 inserted into the queue
---linear queue menu---
1.insertion
2.deletion
3.display
4.exit
enter the choice:1
enter value to insert:20
20 inserted into the queue
---linear queue menu---
1.insertion
2.deletion
3.display
4.exit
enter the choice:1
enter value to insert:30
30 inserted into the queue
Search
ENG
IN
23:00
03-11-2025

"C:\Users\Niju\Documents\da
---linear queue menu---
1.insertion
2.deletion
3.display
4.exit
enter the choice:1
enter value to insert:12
12 inserted into the queue
---linear queue menu---
1.insertion
2.deletion
3.display
4.exit
enter the choice:3
queue elements:
11
10
20
30
12
---linear queue menu---
1.insertion
2.deletion
3.display
4.exit
enter the choice:2
deleted element: 11
---linear queue menu---
1.insertion
2.deletion
3.display
4.exit
enter the choice:2
deleted element: 10
Search
ENG
IN
23:00
03-11-2025


"C:\Users\Niju\Documents\da
---linear queue menu---
1.insertion
2.deletion
3.display
4.exit
enter the choice:2
deleted element: 20
---linear queue menu---
1.insertion
2.deletion
3.display
4.exit
enter the choice:3
queue elements:
30
12
---linear queue menu---
1.insertion
2.deletion
3.display
4.exit
enter the choice:2
deleted element: 30
---linear queue menu---
1.insertion
2.deletion
3.display
4.exit
enter the choice:2
deleted element: 12
---linear queue menu---
1.insertion
Search
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03-11-2025
"C:\Users\Niju\Documents\da
---linear queue menu---
1.insertion
2.deletion
3.display
4.exit
enter the choice:2
queue underflow. queue is empty
---linear queue menu---
1.insertion
2.deletion
3.display
4.exit
enter the choice:3
queue is empty
---linear queue menu---
1.insertion
2.deletion
3.display
4.exit
enter the choice:4
exiting program
Process returned 0 (0x0)   execution time : 69.518 s
Press any key to continue.
Search
ENG
IN
23:00
03-11-2025