#include <stdio.h>

#include <conio.h>

#define MAX 10

int queue[MAX];

int front = -1, rear = -1;

void insert(void);

int delete\_element(void);

int peek(void);

void display(void);

int main()

{

int option, val;

do

{

printf("\n\n \*\*\*\*\* MAIN MENU \*\*\*\*\*");

printf("\n 1. Insert an element");

printf("\n 2. Delete an element");

printf("\n 3. Peek");

printf("\n 4. Display the queue");

printf("\n 5. EXIT");

printf("\n Enter your option : ");

scanf("%d", &option);

switch(option)

{

case 1:

insert();

break;

case 2:

val = delete\_element();

if (val != -1)

printf("\n The number deleted is : %d", val);

break;

case 3:

val = peek();

if (val != -1)

printf("\n The first value in queue is : %d", val);

break;

case 4:

display();

break;

}

}while(option != 5);

getch();

return 0;

}

void insert()

{

int num;

printf("\n Enter the number to be inserted in the queue : ");

scanf("%d", &num);

if(rear == MAX-1)

printf("\n OVERFLOW");

else if(front == -1 && rear == -1)

front = rear = 0;

else

rear++;

queue[rear] = num;

}

int delete\_element()

{

int val;

if(front == -1 || front>rear)

{

printf("\n UNDERFLOW");

return -1;

}

else

{

val = queue[front];

front++;

if(front > rear)

front = rear = -1;

return val;

}

}

int peek()

{

if(front==-1 || front>rear)

{

printf("\n QUEUE IS EMPTY");

return -1;

}

else

{

return queue[front];

}

}

void display()

{

int i;

printf("\n");

if(front == -1 || front > rear)

printf("\n QUEUE IS EMPTY");

else

{

for(i = front;i <= rear;i++)

printf("\t %d", queue[i]);

}

}

OUTPUT:

