**Data Structures in C LAB – {2}**

Akshaya agarwal

2247207

3-MCA B

**CODE :**

#include<stdio.h>

#include<stdlib.h>

struct node

{

int data;

struct node \*next;

};

struct node \*front;

struct node \*rear;

struct node \*middle;

void insertNode(struct node \*ptr, int item)

{

ptr = (struct node \*) malloc(sizeof(struct node));

if (ptr == NULL)

{

printf("\nOVERFLOW\n");

return;

}

else

{

ptr -> data = item;

if (front == NULL)

{

front = ptr;

rear = ptr;

front -> next = NULL;

rear -> next = NULL;

}

else

{

rear -> next = ptr;

rear = ptr;

rear -> next = NULL;

}

}

}

void deleteNode()

{

if (front == NULL)

{

printf("Underflow");

return;

}

else

{

printf("Element deleted : %d", front -> data);

front = front -> next;

}

}

void displayNode()

{

int i=1;

if (front == NULL)

{

printf("Underflow");

return;

}

else

{

middle = front;

printf("The elements are: ");

while(i>0)

{

printf("\n%d-> %d", i, middle->data);

if(middle==rear)

{

break;

}

i++;

middle = middle -> next;

}

}

}

void main()

{

struct node \*head = NULL;

int ch=1, val;

while(ch!=0)

{

printf("\nAkshaya Agarwal\n2247207\nChoose from the following: \n1. Insert data into queue\n2. Delete data from queue\n3. View the Queue \n0.Exit\nEnter your choice: ");

scanf("%d",&ch);

switch(ch)

{

case 0:

printf("Ok Bye! Take care");

break;

case 1:

printf("Enter the value you want to insert: ");

scanf("%d", &val);

insertNode(head, val);

printf("Inserted values is %d", val);

break;

case 2:

deleteNode();

break;

case 3:

displayNode();

break;

default:

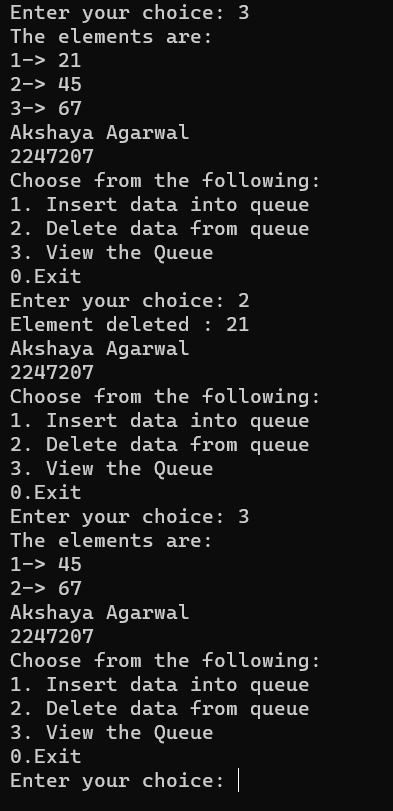
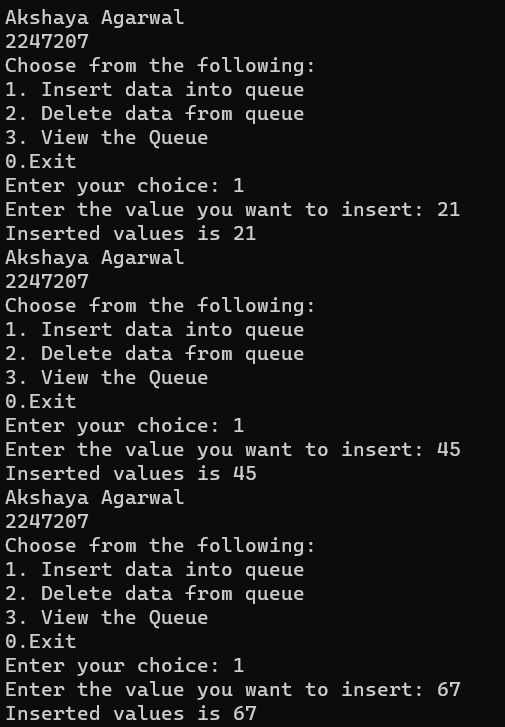
printf("Invalid Input. Please try again.");

}

}

}

**OUTPUT :**

****