Lab Assignment – 3

**Name:Gambhir Bhaumik**

**Class:B**

**Roll no.:37**

## Ǫ.1 Write a program to insert element into the stack and display the element. Code:

/\* Name:Gambhir Bhaumik Class:B

Roll No.:37 \*/

#include<stdio.h> #include<conio.h> #define SIZE 4

int inp\_array[SIZE],top = -1; void push(){

int x;

if(top == SIZE - 1){ printf("\n overflow");

}

else{

printf("Enter the element to be added onto the stack:"); scanf("%d",&x);

top = top + 1; inp\_array[top] = x;

}

}

void show(){ int i;

if (top == -1)

{

printf("\nUnderflow");

}

Else{

printf("\nElements present in the stack:\n"); for(i = 0; i<top+1; i++){

printf("%d\n",inp\_array[i]);

}

}

}

void main(){ int i,op; clrscr();

printf("Name:Gambhir Bhaumik\n Class:B\n Roll No.:37\n\n");

while(1){

printf("\nFor Push Element Enter 1\n"); printf("For Showing elemnts Enter 2\n"); printf("For Exit enter 3\n");

printf("Select the operation to be performed:"); scanf("%d",&op);

switch(op){ case 1:

push(); break; case 2:

show(); break; case 3:

exit(); break; default:

printf("Enter Valid value");

}

}

getch();

}

# Output:

# nn.png

## Write a program to delete an element into the stack and display the element. Code :

/\* Name:Gambhir Bhaumik Class:B

Roll No.:37 \*/

#include<stdio.h> #include<conio.h> #define SIZE 4

int inp\_array[SIZE],top = -1; void pop(){

if(top == -1)

{

printf("\nUNderflow");

}

else{

printf("\nPopped element: %d\n",inp\_array[top]); top = top - 1;

}

}

void show(){ int i;

if (top == -1)

{

printf("\nUnderflow");

}

else{

printf("\nElements present in the stack:\n"); for(i = 0; i<top+1; i++){

printf("%d\n",inp\_array[i]);

}

}

}

void main(){ int i,op; clrscr();

printf("Name:Gambhir Bhaumik\n Class:B\n Roll No.:37\n\n"); for(i=0;i<SIZE;i++){

printf("Enter the all elements[%d]:",i); scanf("%d",&inp\_array[i]);

top = top + 1;

}

while(1){

printf("\nFor popping Elemnt enter 1\n");

printf("For Showing elemnts Enter 2\n"); printf("For Exit enter 3\n");

printf("Select the operation to be performed:"); scanf("%d",&op);

switch(op){ case 1:

pop(); break; case 2:

show(); break; case 3:

exit(); break; default:

printf("Enter Valid value");

}

}

getch();

}

## Output:

## nnn.png

1. **Write a program to insert element into the queue and display the element. Code :**

/\* Name:Gambhir Bhaumik Class:B

Roll No.:37 \*/

#include<conio.h> #include<stdio.h> #define SIZE 100 int arr[SIZE];

int rear=-1; int front = -1;

void enqueue(){

int insert\_item; if(rear == SIZE - 1) printf("Overflow!\n"); else{

if(front == -1)

front = 0;

printf("Element to be inserted in the queue:"); scanf("%d",&insert\_item);

rear = rear+1;

arr[rear] = insert\_item;

}

}

void show(){ int i;

if(front == -1) printf("Empty Ǫueue\n"); else{

printf("Ǫueue:\n"); for(i=front; i<=rear; i++){ printf("%d",arr[i]); printf("\n");

}

}

}

void main(){ int ch;

clrscr();

printf("Name:Gambhir Bhaumik\n Class:B\n Roll No.:37\n\n"); while(1)

{

printf("1.Enqueue operation\n"); printf("2.Display Ǫueue\n"); printf("3.Exit\n");

printf("Enter your choice of operation:"); scanf("%d",&ch);

switch(ch){ case 1: enqueue(); break;

case 2:

show(); break; case 3:

exit(0); break; default:

printf("Enter valid number.");

}

}

getch();

}

## Output :

## nnnn.png

**Write a program to delete element into the queue and display the element. Code :**

/\* Name:Gambhir Bhaumik Class:B

Roll No.:37 \*/

#include<conio.h> #include<stdio.h> #define SIZE 100 int arr[SIZE];

int rear=-1;

int front = -1; void dequeue(){

if(front == -1 || front>rear){ printf("Underflow!\n");

}

else{

printf("Element deleted from the queue: %d\n",arr[front]); front = front+1;

}

}

void enqueue(){

int insert\_item;

if(rear == SIZE - 1)

printf("Overflow!\n");

else{

if(front == -1)

front = 0;

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

scanf("%d",&insert\_item);

rear = rear+1;

arr[rear] = insert\_item;

}

}

void show(){ int i;

if(front == -1) printf("Empty Ǫueue\n");

else{ printf("Ǫueue:\n");

for(i=front; i<=rear; i++){ printf("%d",arr[i]); printf("\n");

}

}

}

void main(){

int ch; clrscr();

printf("Name:Gambhir Bhaumik\n Class:B\n Roll No.:37\n\n"); while(1)

{

printf("\n1.Enqueue operation");

printf("\n2.Dequeue operation");

printf("\n3.Display Queue");

printf("\n4.Exit");

printf("\nEnter your choice of operation:\n");

scanf("%d",&ch);

switch(ch){

case 1:

enqueue();

break;

case 2:

dequeue();

break;

case 3:

show();

break;

case 4:

exit(0);

break;

default:

printf("Enter valid number.");}

}

getch();

}

## Output :

