**Programs**

1. Write a program to implement a queue using two stacks.

Ans:

#include<stdio.h>

#include<stdlib.h>

#include<conio.h>

#define n 10

int s1[n],s2[n];

int top1=-1;

int top2=-1;

int count=0;

void enqueue(int x);

void deque();

void push1(int x);

void push2(int x);

int pop1();

int pop2();

void display();

void main()

{

int ch,x;

clrscr();

while(ch!=4)

{

printf("\n----------------------------Menu-------------------------");

printf("\n1.Enqueue \t2.Dequeue \t3.Display \t4.Exit");

printf("\n---------------------------------------------------------");

printf("\nEnter your choice:");

scanf("%d",&ch);

switch(ch)

{

case 1:printf("Enter element:");

scanf("%d",&x);

enqueue(x);

break;

case 2:deque();

break;

case 3:display();

break;

case 4:exit(0);

default:printf("Invalid choice..");

}

}

}

void enqueue(int x)

{

push1(x);

count++;

}

void push1(int x)

{

if(top1==n-1)

{

printf("Stack is full..");

}

else

{

top1++;

s1[top1]=x;

}

}

void push2(int x)

{

if(top2==n-1)

{

printf("Stack is full..");

}

else

{

top2++;

s2[top2]=x;

}

}

int pop1()

{

return(s1[top1--]);

}

int pop2()

{

return(s2[top2--]);

}

void deque()

{

int i,a,b;

if(top1==-1&&top2==-1)

{

printf("Stack is empty..");

}

else

{

for(i=0;i<count;i++)

{

a=pop1();

push2(a);

}

b=pop2();

printf("Deleted element is %d",b);

count--;

for(i=0;i<count;i++)

{

a=pop2();

push1(a);

}

}

}

void display()

{

int i;

printf("Elements in queue are:\n");

for(i=0;i<=top1;i++)

{

printf("%d\t",s1[i]);

}

}

Output:

