3. write a c program to implement Multiple stack operations using SLL.

**Code**:

#include<stdio.h>

#include<conio.h>

#define MAX\_X 5

#define MAX\_Y 5

int topx=-1;

int topy=10;

void push\_x(int \*stack)

{

int info;

if(topx>=(MAX\_X-1))

{ printf("\n\nStack OverFlow");

return;

}

else

{ printf("\n\nEnter The info To Push");

scanf("%d",&info);

topx++;

stack[topx]=info;

}}

void push\_y(int \*stack)

{

int info;

if(topy<=(MAX\_Y))

{

printf("\n\nStack OverFlow");

return;

}

else

{

printf("\n\nEnter The info To Push");

scanf("%d",&info);

topy--;

stack[topy]=info;

}

}

void pop\_x(int \*stack)

{ if(topx==-1)

{

printf("Stack X is Underflow");

return;

}

else

{

printf("Item Poped from stack X is:%d\n",stack[topx]);

topx--;

}

}

void pop\_y(int \*stack)

{ if(topy==10)

{printf("Stack y is Underflow");

return;

}

else

{ printf("Item Poped from stack Y is:%d\n",stack[topy]);

topy++;

}}

void display\_x(int \*stack)

{

int i;

if(topx==-1)

{

printf("Stack X is Empty");

return;

}

else

{ for(i=topx;i>=0;i--)

{printf("%d,",stack[i]);}

printf("\n");

}}

void display\_y(int \*stack)

{

int i;

if(topy==10)

{printf("Stack Y is Empty");

return;}

else

{for(i=topy;i<=9;i++)

{

printf("%d,",stack[i]);

}

printf("\n");

} }

main()

{ int choice;

char ch;

int stack[MAX\_X+MAX\_Y];

do

{ printf("1.Push\_X\n2.Push\_Y\n");

printf("\n3.Pop\_X\n4.Pop\_Y\n");

printf("\n5.Display\_X\n6.Display\_Y\n");

printf("\n7.Exit");

printf("\n\nEnter Choice");

scanf("%d",&choice);

switch(choice)

{

case 1: push\_x(stack);break;

case 2: push\_y(stack);break;

case 3: pop\_x(stack);break;

case 4: pop\_y(stack);break;

case 5: display\_x(stack);break;

case 6: display\_y(stack);break;

case 7: break;

default: printf("Wrong Option...");

}

}while(choice!=7);

}

**Output:**











