***Implement Stack using array***

#include <stdio.h>

#include<conio.h>

int stack[100],choice,n,top,x,i;

void push();

void pop();

void display();

void main()

{

top=-1;

printf("\n Enter the size of the stack:");

scanf("%d",&n);

printf("\n 1.Push \n 2.Pop \n 3.Display\n 4.Exit \n");

do

{

printf("\n Enter the choice from menu: \n") ;

scanf("%d",&choice);

switch(choice)

{

case 1:

{

push();

break;

}

case 2:

{

pop();

break;

}

case 3:

{

display();

break;

}

case 4:

{

printf("\n Exit point...");

break;

}

default:

{

printf("\n Please enter a valid choice(1,2,3,4):");

}

}

}

while(choice!=4);

getch();

}

void push()

{

if(top>=n-1)

{

printf("\n Stack is overflow!");

}

else

{

printf("Enter the value to be pushed: ");

scanf("%d",&x);

top++;

stack[top]=x;

}

}

void pop()

{

if (top<=-1)

{

printf("\n Stack is underflow!");

}

else

{

printf("\n \t Popped element is: %d",stack[top]);

top--;

}

}

void display()

{

if(top>=0)

{

printf("\n Elements in the stack are: \n");

for(i=top;i>=0;i--)

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

}

else

{

printf("\n Stack is empty!");

}

}

***Output***

Enter the size of the stack:5

1.Push

2.Pop

3.Display

4.Exit

Enter the choice from menu:

1

Enter the value to be pushed: 1

Enter the choice from menu:

1

Enter the value to be pushed: 2

Enter the choice from menu:

1

Enter the value to be pushed: 3

Enter the choice from menu:

3

Elements in the stack are:

3

2

1

Enter the choice from menu:

2

Popped element is: 3

Enter the choice from menu:

3

Elements in the stack are:

2

1

Enter the choice from menu:

4

Exit point...