Object – write a program to create,push elements,pop elements and traverse elements of stack using switch .

Description-

1.Stack

Stack is a linear data structure which follows a particular order in which the operations are performed . the order may be LIFO(last in first out) or FILO(first in last out)

Mainly the following basic operations are performed in stack:

* Push:Adds an item if the stack is full , then it is said to be an overflow condition.
* Pop: Removes an item fram the stack. The item are popped in the reversed order in which they are push.if the stack is empty ,then it is said to be an underflow condition.

2.switch statement

Switch case statements are a substitute for long if statements that compare a variable to several integral values

* The switch statement is a multiway branch statement .it provides an esay way to dispatch execution to different parts of code based on the value of the expression.
* Switch is a case control statement that allows a value to change control of execution.

Syntax:

Switch(n)

{

Case 1: //code to be executed if n=1;

break;

Case 2: //code to be executed if n=2;

break;

default://code to be executed if n does’t match any cases

Program:-

#include<stdio.h>

#include<conio.h>

Int stack[5],maxsize=5,top=-1; //declaration

Void push(); //function declaration

Void pop(); //function declaration

Void traverse(); //function declaration

Int main()

{

Int choice; //declaration

Printf(“stack operation”);

Printf(“1.for push\n.2for pop\n.3for traverse\n.4for exit”);

do //do-while loop

{

Printf(“\n enter the choice”);

Scanf(“%d”,&choice);

switch(choice)

{

case 1: push(); //function call

break; //break statement

case 2 :pop(); //function call

break; //break statement

case 3: traverse(); //function call

break; //break statement

case 4 : break; //break statement

default: printf(“you entered wrong choice”);

}

}while(choice!=4); //while loop

return 0;

}

void push() //function definition

{

int x; //declaration

if(top==maxsize-1) //if statement

{

printf(“stack is overflow”);

}

else //else statement

{

printf(“enter the element”);

scanf(“%d”,&x);

top=top+1;

stack[top]=x;

}

}

void pop() //function definition

{

if(top==-1) //if statement

printf(“underflow condition”);

else //else statement

{

printf(“%d deleted element is:”,stack[top]);

top=top-1;

}

}

void traverse() //function definition

{

int i; //declaration

if(top>=0)

{

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

{

printf(“\n%d”,stack[i]);

}

}

}

