**Assigment No:- 1.3.2**

**Title :- Implemtation of program based on Postfix evalution**

#include<iostream.h>

#include<conio.h>

#include<stdio.h>

#include<stdlib.h>

#include<ctype.h>

#include<math.h>

const int MAX=;

class POSTFIX

{

private:

int stack[MAX];

int top,num,ele,data;

char s[20];

public:

POSTFIX();

void SET\_EXPR();

void PUSH(int ele);

int POP();

void CALCULATE();

void LIST\_ALL();

};

POSTFIX::POSTFIX()

{

top=-1;

}

void POSTFIX::SET\_EXPR()

{

gets(s);

}

void POSTFIX::PUSH(int ele)

{

if(top==MAX-1)

cout<<endl <<"Stack is Full";

else

{

top++;

stack[top]=ele;

}

}

int POSTFIX::POP()

{

if(top==-1)

{

cout<<endl <<"Stack is Empty";

return NULL;

}

int data=stack[top];

top--;

return data;

}

void POSTFIX::CALCULATE()

{

int n1,n2,n3;

int i=0;

char ch;

while(s[i]!='\0')

{

int n=0;

ch =s[i];

if(ch==' '|| ch =='\t')

{

i++;

continue;

}

if(isdigit (ch))

{

while(isdigit(s[i]))

{

num=s[i]-'0';

n=n\*10+num;

i++;

}

PUSH(n);

}

else

{

n1=POP();

n2=POP();

switch(ch)

{

case '+':n3=n2+n1;

break;

case '-':n3=n2-n1;

break;

case '/':n3=n2/n1;

break;

case '\*':n3=n2\*n1;

break;

case '%':n3=n2%n1;

break;

case '^':n3=pow(n2,n1);

break;

default:

cout<<" Invalid Choice ";

exit(1);

}

PUSH(n3);

}

i++;

}

}

void POSTFIX::LIST\_ALL()

{

num=POP();

cout<<"\n Result is: "<< num;

}

void main()

{

clrscr();

cout<<"\n Enter Postfix expression to be evaluated :";

POSTFIX p;

p.SET\_EXPR();

p.CALCULATE();

p.LIST\_ALL();

getch(); }