Ex 6: Evaluation Arithmetic Expression

Name: SUHIRTHA MP

Reg No.:231801175

PROGRAM:

#include <stdio.h>

#include <string.h>

#include <ctype.h>

int top = -1;

int stack[100];

void push (int data) {

stack[++top] = data;

}

int pop () {

int data;

if (top == -1)

return -1;

data = stack[top];

stack[top] = 0;

top--;

return (data);

}

int main()

{

char str[100];

int i, data = -1, operand1, operand2, result;

printf("Enter ur postfix expression:");

fgets(str, 100, stdin);

for (i = 0; i < strlen(str); i++){

if(isdigit(str[i]))

{

data = (data == -1) ? 0 : data;

data = (data \* 10) + (str[i] - 48);

continue;

}

if (data != -1){

push(data);

}

if (str[i] == '+' || str[i] == '-'|| str[i] =='\*'|| str[i] == '/'){

operand2 = pop();

operand1 = pop();

if (operand1 == -1 || operand2 == -1)

break;

switch (str[i])

{

case '+':

result = operand1 + operand2;

push(result);

break;

case '-':

result = operand1 - operand2;

push(result);

break;

case '\*':

result = operand1 \* operand2;

push(result);

break;

case '/':

result = operand1 / operand2;

push(result);

break;

}

}

data = -1;

}

if (top == 0)

printf("The answer is:%d\n", stack[top]);

else

printf("u have given wrong postfix expression\n");

return 0;

}

OUTPUT:

