

**LEADING UNIVERSITY**

**Course Title: Compiler Design & Construction Sessional**

**Course Code: CSE-3316**

**Lab Report - 03**

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**Experiment – 03**

**Lab 3.1:**

#include<bits/stdc++.h>

using namespace std;

int main(){

    string str="123\*456/78";

    int a=0, b=0, c=0;

    double result=0.00;

    int pos[2], pos1, pos2, j=0;

    for(int i=0; i<str.size(); i++){

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

            pos[j]=i;

            j++;

            continue;

        }

        if(j==0)

            a=a\*10+(str[i]-48);

        else if(j==1)

            b=b\*10+(str[i]-48);

        else

            c=c\*10+(str[i]-48);

    }

    pos1=pos[0];

    pos2=pos[1];

    if(str[pos1]=='+')

        result=a+b;

    else if(str[pos1]=='-')

        result=a-b;

    else if(str[pos1]=='\*')

        result=a\*b;

    else if(str[pos1]=='/')

        result=a/b;

    if(str[pos2]=='+')

        cout << result+c << endl;

    else if(str[pos2]=='-')

        cout << result-c << endl;

    else if(str[pos2]=='\*')

        cout << result\*c << endl;

    else if(str[pos2]=='/')

        cout << result/c << endl;

    return 0;

}

**Output:**

719.077

**Explanation:**

Here, we have taken a fixed string to test this program. Then firstly, we will traverse the string by a for loop and store the operators into an array named by pos[]. In next, we will convert the string before first operator into an integer and store it in a variable. Then we will do the same thing to the second part of the string (In between first and second operator). For the third part of the string, after 2nd operator we will apply same process. Now we will check which operator in str[pos1] and do the operation according to it to a and b. Again we will check which operator in str[pos2] and according to it we will perform operation to result and c.

**Lab 3.2:**

#include<bits/stdc++.h>

using namespace std;

int main(){

    string str="123\*456/78";

    int a=0, b=0, c=0;

    double result=0.00;

    int pos[2], pos1, pos2, j=0;

    for(int i=0; i<str.size(); i++){

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

            pos[j]=i;

            j++;

        }

    }

    pos1=pos[0];

    pos2=pos[1];

    for(int i=0; i<pos1; i++)

        a=a\*10+(str[i]-48);

    for(int i=pos1+1; i<pos2; i++)

        b=b\*10+(str[i]-48);

    for(int i=pos2+1; i<str.size(); i++)

        c=c\*10+(str[i]-48);

    if(str[pos1]=='+')

        result=a+b;

    else if(str[pos1]=='-')

        result = a-b;

    else if(str[pos1]=='\*')

        result=a\*b;

    else if(str[pos1]=='/')

        result=a/b;

    if(str[pos2]=='+')

        cout << result+c << endl;

    else if(str[pos2]=='-')

        cout << result-c << endl;

    else if(str[pos2]=='\*')

        cout << result\*c << endl;

    else if(str[pos2]=='/')

        cout << result/c << endl;

    return 0;

}

**Output;**

719.077

**Explanation:**

Here, we have taken a fixed string to test this program. Then firstly, we will traverse the string by a for loop and store the operators into an array named by pos[].In next, we will use another for loop to convert the string before first operator into an integer and store it in a variable. Then we will do the same thing to the second part (In between first and second operator) and third part (after second operator to end of the string) of the string using individual two for loop. Now we will check which operator in str[pos1] and do the operation according to it to a and b. Again we will check which operator in str[pos2] and according to it we will perform operation to result and c.