

**LEADING UNIVERSITY**

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

**Course Code: CSE-3316**

**Lab Report - 04**

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**Experiment – 04**

**Code is given below:**

#include<iostream>

#include<map>

#include<vector>

using namespace std;

int main()

{

map <string, string> mp;

string Str = "sum = num1 + num2 + num3 - num4 \* num5";

string NewStr = "";

vector<string> v ;

for(int i=0; i<Str.size(); i++)

{

if(Str[i]!=' ')

NewStr += Str[i];

}

NewStr += '\*';

string subStr = "", opStr;

char cntStr = '1', cntOp='1';

for(int i=0; i<NewStr.size(); i++)

{

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

{

if(mp.find(subStr) == mp.end())

{

if(mp[subStr] == "")

{

mp[subStr] = "id";

mp[subStr] += cntStr;

cntStr++;

}

v.push\_back(subStr);

}

opStr += NewStr[i] ;

if((NewStr.size() - 1) != i )

v.push\_back(opStr);

if(mp[opStr] == "")

{

mp[opStr] = "op";

mp[opStr] += cntOp;

cntOp++;

}

subStr = "";

opStr = "" ;

}

else

{

subStr += NewStr[i];

}

}

for(int i=0; i<v.size(); i++)

{

cout << mp[v[i]]<<" ";

}

cout<<endl;

return 0;

}

**Output:**

id1 op1 id2 op2 id3 op2 id4 op3 id5 op4 id6