**Lab 10: Shift Reduce parsing**

**Exercise 1**

Write a program to construct shift reduce parser for following CFG

E E + E

EE\*E

E(E)

E **id**

**TASK\_01:**

#include<iostream>

#include<string>

using namespace std;

int i=0;

string inp[]={"id","+","id","\*","id","$"}, stack[6];

void reduce(){

cout<<"Value at Stack["<<i<<"] : "<<stack[i];

if(stack[i]=="id"){

stack[i]="E";

cout<<" ----> "<<stack[i];

}

if(i>1) {

if(stack[i]=="E" && stack[i-1]=="+" && stack[i-2]=="E"){

cout<<"\nReduced String: "<<stack[i-2]<<" "<<stack[i-1]<<" "<<stack[i];

stack[i-1]="";

stack[i-2]="";

}

else if(stack[i]=="E" && stack[i-1]=="\*" && stack[i-2]=="E"){

cout<<"\nReduced String: "<<stack[i-2]<<" "<<stack[i-1]<<" "<<stack[i];

stack[i-1]="";

stack[i-2]="";

}

}

cout<<endl;

i++;

}

int main(){

while(inp[i]!="$") {

stack[i]=inp[i];

reduce();

}

i--;

if(stack[i]=="E")

cout<<"Successfully reduced:"<<endl;

else

cout<<"Unccessfully reduced:"<<endl;

}

