UNIVERSIDAD DEL VALLE DE GUATEMALA

Construcción de Compiladores - CC3032

Sección 10

Ing. Bidkar Alexander Pojoy Corzo

Laboratorio No. 1

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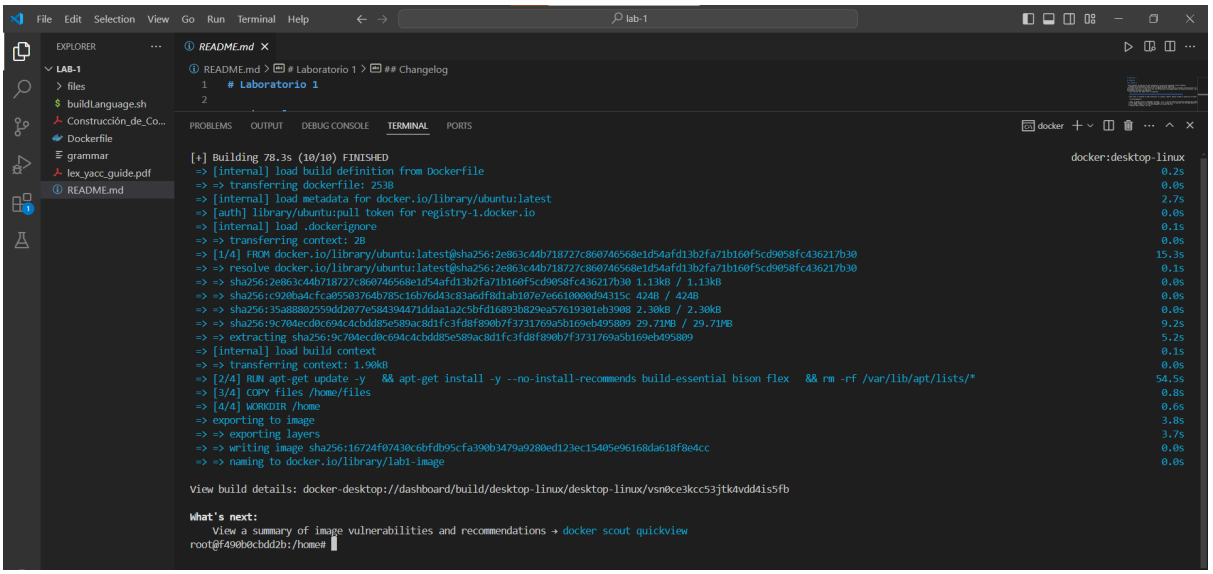
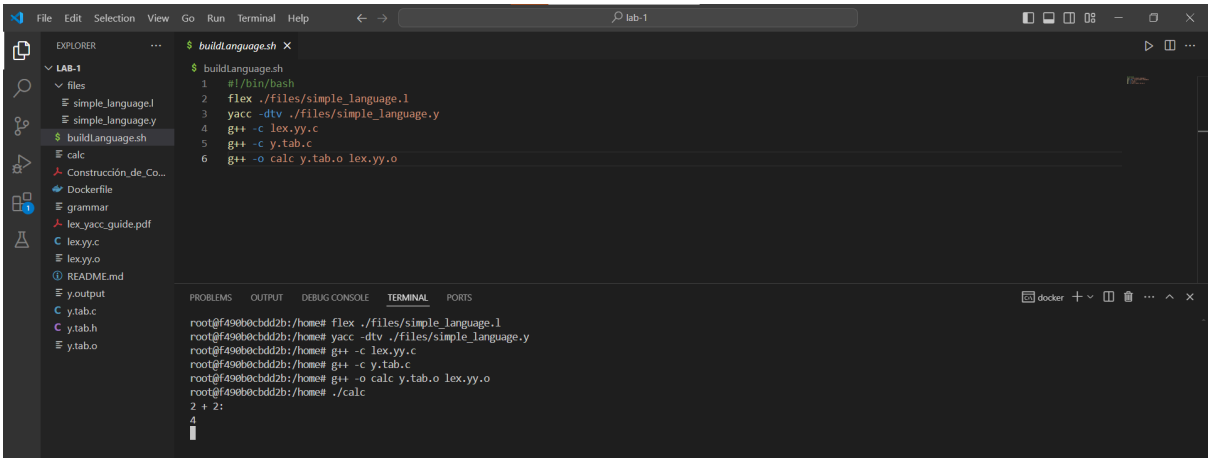
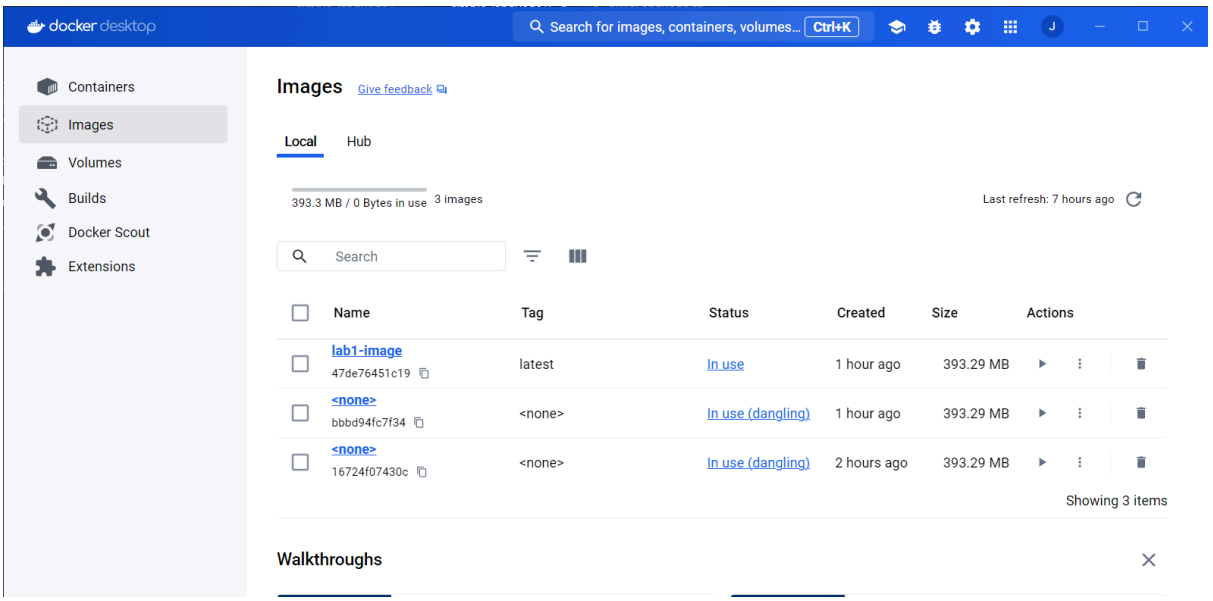
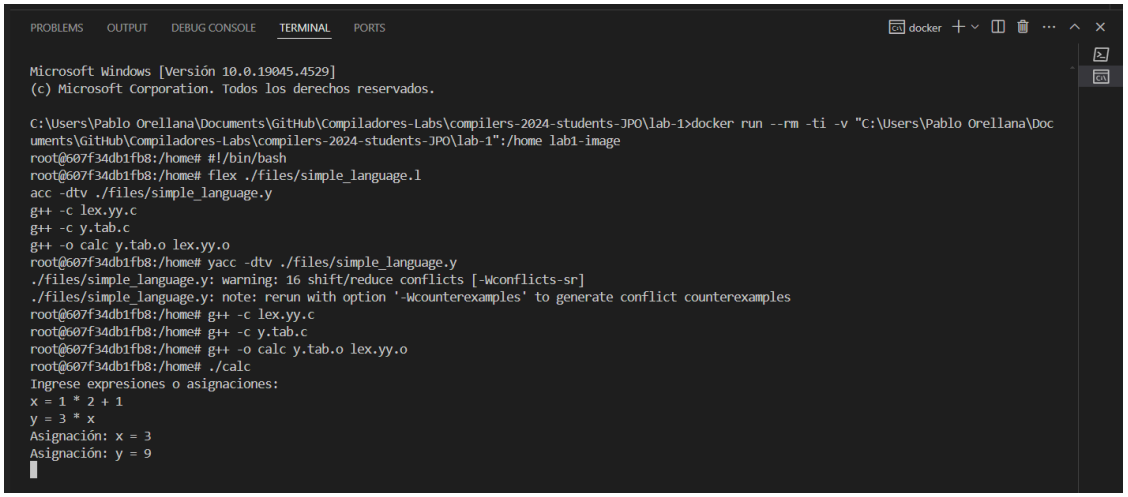
Capturas Laboratorio 1



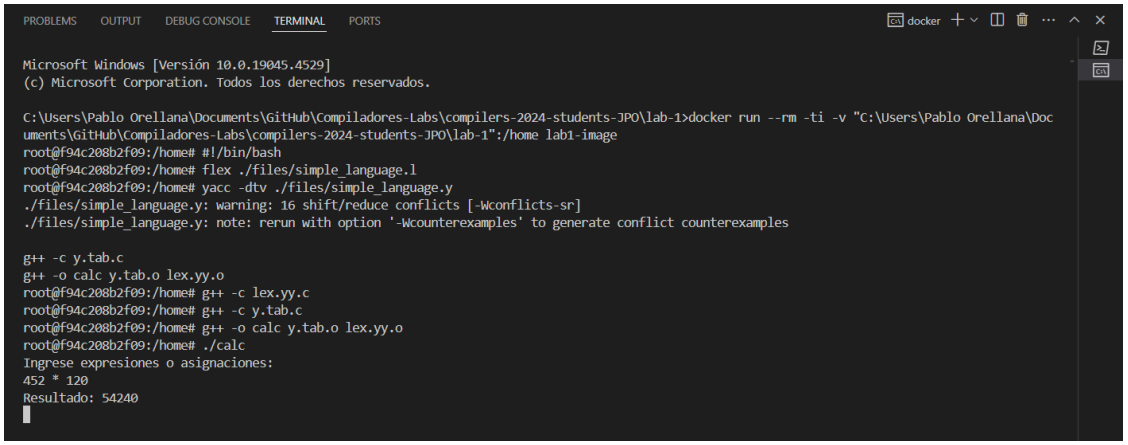


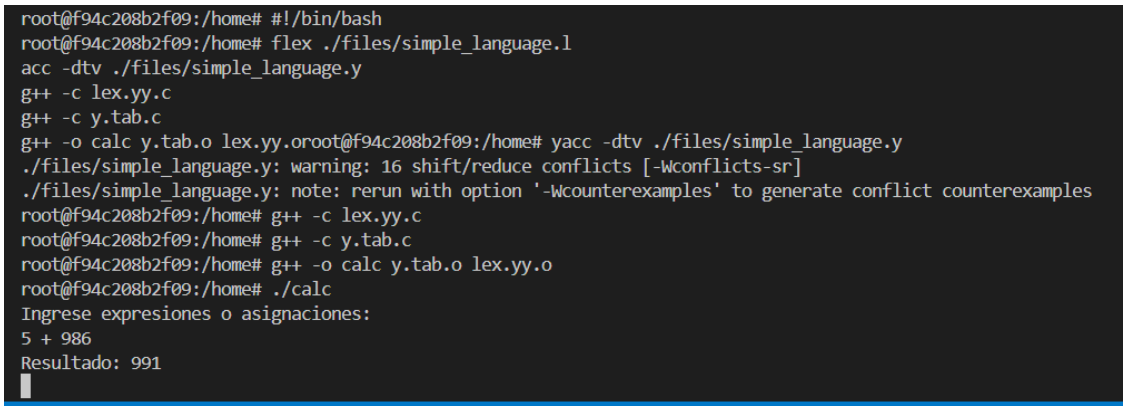


1. **Cree un programa que asigne un valor a una variable.**



2. **Cree un programa que realice una operación aritmética simple.**





3. **Experimente con expresiones más complejas y verifique que el compilador las procese correctamente.**

```
Microsoft Windows [Versión 10.0.19045.4529]
(c) Microsoft Corporation. Todos los derechos reservados.

C:\Users\Pablo Orellana\Documents\GitHub\Compiladores-Labs\compilers-2024-students-JPO\lab-1>docker run --rm -ti -v "C:\Users\Pablo Orellana\Doc
uments\GitHub\Compiladores-Labs\compilers-2024-students-JPO\lab-1":/home lab1-image
root@de2f23095e7f:/home# #!/bin/bash
root@de2f23095e7f:/home# flex ./files/simple_language.l
acc -dtv ./files/simple_language.y
g++ -c lex.yy.c
g++ -c y.tab.c
g++ -o calc y.tab.o lex.yy.oroot@de2f23095e7f:/home# yacc -dtv ./files/simple_language.y
./files/simple_language.y: warning: 16 shift/reduce conflicts [-Wconflicts-sr]
./files/simple_language.y: note: rerun with option '-Wcounterexamples' to generate conflict counterexamples
root@de2f23095e7f:/home# g++ -c lex.yy.c
root@de2f23095e7f:/home# g++ -c y.tab.c
root@de2f23095e7f:/home# g++ -o calc y.tab.o lex.yy.o
root@de2f23095e7f:/home# ./calc
Ingrese expresiones o asignaciones:
(2 + 3) * (5 - 1)
Resultado: 20
```

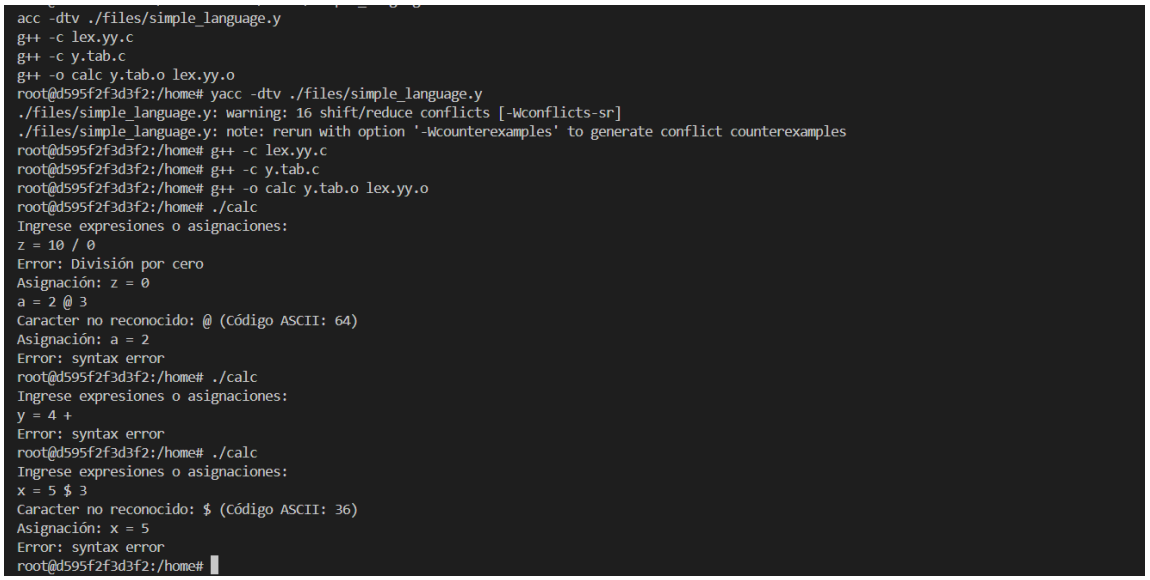
```
root@de2f23095e7f:/home# #!/bin/bash
root@de2f23095e7f:/home# flex ./files/simple_language.l
root@de2f23095e7f:/home# yacc -dtv ./files/simple_language.y
./files/simple_language.y: warning: 16 shift/reduce conflicts [-Wconflicts-sr]
./files/simple_language.y: note: rerun with option '-Wcounterexamples' to generate conflict counterexamples
root@de2f23095e7f:/home# g++ -c lex.yy.c
root@de2f23095e7f:/home# g++ -c y.tab.c
root@de2f23095e7f:/home# g++ -o calc y.tab.o lex.yy.o
root@de2f23095e7f:/home# ./calc
Ingrese expresiones o asignaciones:
(2 + (3 * 4)) - (5 / (1 + 1))
Resultado: 12
```

4. **Modifique el lenguaje para incluir la asignación de variables con expresiones aritméticas.**

```
uments\GitHub\Compiladores-Labs\compilers-2024-students-JPO\lab-1":/home lab1-image
root@5aa63e652a8c:/home# #!/bin/bash
root@5aa63e652a8c:/home# flex ./files/simple_language.l
acc -dtv ./files/simple_language.y
g++ -c lex.yy.c
g++ -c y.tab.c
g++ -o calc y.tab.o lex.yy.oroot@5aa63e652a8c:/home# yacc -dtv ./files/simple_language.y
./files/simple_language.y: warning: 16 shift/reduce conflicts [-Wconflicts-sr]
./files/simple_language.y: note: rerun with option '-Wcounterexamples' to generate conflict counterexamples
root@5aa63e652a8c:/home# g++ -c lex.yy.c
root@5aa63e652a8c:/home# g++ -c y.tab.c
root@5aa63e652a8c:/home# g++ -o calc y.tab.o lex.yy.o
root@5aa63e652a8c:/home# ./calc
Ingrese expresiones o asignaciones:
a = (5 * (3 + 2)) - 7
Asignación: a = 18
b = (a + 4) / 2
Asignación: b = 11
```

```
acc -dtv ./files/simple_language.y
g++ -c lex.yy.c
g++ -c y.tab.c
g++ -o calc y.tab.o lex.yy.o
root@8f7eaccd54e2:/home# yacc -dtv ./files/simple_language.y
./files/simple_language.y: warning: 16 shift/reduce conflicts [-Wconflicts-sr]
./files/simple_language.y: note: rerun with option '-Wcounterexamples' to generate conflict counterexamples
root@8f7eaccd54e2:/home# g++ -c lex.yy.c
root@8f7eaccd54e2:/home# g++ -c y.tab.c
root@8f7eaccd54e2:/home# g++ -o calc y.tab.o lex.yy.o
root@8f7eaccd54e2:/home# ./calc
Ingrese expresiones o asignaciones:
p = (3 + 2) * 4
Asignación: p = 20
q = p / (1 + 1)
Asignación: q = 10
```

5. **Agregue manejo de errores al compilador para detectar tokens inválidos en el programa fuente.**



Enlace al Repositorio: https://github.com/JPOrellana/compilers-2024-students-JPO