Lab 3

Friday, September 9, 2022 5:39 PM

chapter 1

(10)

10. List all the tokens in the following Python and C code:

```
# Python code
x = 5
while x > 0:
   print('hello')
   x = x - 1
print('bye')
```

```
// C code
x = 5;
while (x > 0) {
   printf("hello");
   x = x - 1;
}
printf("bye");
```

Python code:

1. x
2. =
3. 5
4. newline
5. while
6. x
7. >
8. 0
9. :
10. newline
11. print
12. (
13. hello
14.)
15. newline
16. x
17. =
18. x
19. -
20. 1
21. newline
22. dedent
23. print
24. (
25. bye
26.)
27. newline
28. EOF

C code

1. x
2. =
3. 5
4. newline
5. while
6. (
7. x
8. >
9. 0
10.)
11. {
12. newline
13. indent
14. printf
15. (
16. hello
17.)
18. newline
19. x
20. =
21. x
22. -
23. 1
24. newline
25. dedent
26. }
27. printf
28. (
29. bye
30.)
31. newline
32. EOF

11.)

11. When positioned on the directory that contains the software package for this book, enter on the command line

```
python sample.py > ch1p11.txt
```

Then examine with a text editor the file `ch1p11.txt`. What is the effect of "`> ch1p11.txt`"?

- it creates a new txt file called ch1p11.txt with the output of sample.py

chapter 2

(1.)

1. Using set builder notation, define the language a*b*.

- zero or more a's, zero or more b's

$\{a^i b^n \mid i \geq 0, n \geq 0\}$

(3)

3. Write a regular expression that defines the same language as a*b* ∩ b*c*.

→ all strings in both a*b* & b*c*

b*

→ set of strings that are both in a*b* and in b*c*

(6)

6. Write a regular expression that defines the language over {a, b} that consists of all strings that have exactly one b.

a*ba*