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1.7: Practice Quiz

Due No due date

Points 5

Questions 5

Time limit None

Allowed attempts 2

Instructions

The questions in this quiz are derived from the content presented in Module 1. The practice quiz is intended as a knowledge check for mastery of objectives in the module. It provides a sample of questions you will see in the final exam for the course.

Attempt history

	Attempt	Time	Score
KEPT	Attempt 2	1 minute	5 out of 5
LATEST	Attempt 2	1 minute	5 out of 5
	Attempt 1	19 minutes	2 out of 5

Score for this attempt: 5 out of 5
Submitted 26 Jun at 10:55
This attempt took 1 minute.

Last attempt details:	
Time:	1 minute
Current score:	5 out of 5
Kept score:	5 out of 5

2 Attempts so far
 [View previous attempts](#)
No More Attempts available

Question 1

1 / 1 pts

Consider the following code:

```
Token LexicalAnalyzer::GetToken()
{
    input.GetChar(c);
    switch (c) {
        case '=':
            input.GetChar(c);
            if (c == '=') {
                tmp.token_type = EQEQ;
            } else if (c == '<') {
                tmp.token_type = EQLT;
            } else if (c == '>') {
                tmp.token_type = EQGT;
            } else
                tmp.token_type = ERROR;
            return tmp;
        default:
            tmp.token_type = ERROR;
            return tmp;
    }
}
```

In the code, input.GetChar() gets the next character from standard input. If GetToken() is called four times, which of the following inputs will return a token whose type is ERROR?

- ☐ ==>====
- ☐ =====<==
- ☐ =<=====
- ☐ =====
- ☒ =====<=

Correct!

Question 2

1 / 1 pts

Consider the regular expressions:

letter = a | b | c | d

LETTER = A | B | C | D

digit = 4 | 5 | 6 | 7 | 9

$R_1 = (\text{LETTER} | \text{digit} | !) \cdot (\text{letter} \cdot \text{digit})^* \cdot (\text{letter} | \text{digit})$

$R_2 = (\text{digit} | ? | !) \cdot (\text{letter}^* \cdot \text{digit}^*)^* \cdot (\text{LETTER} | \text{letter})$

$R_3 = (\text{LETTER} | \text{digit} | ?) \cdot (\text{letter} | \text{digit})^* \cdot (\text{LETTER} | \text{digit})$

$R_4 = (\text{digit} \cdot \text{letter} | ? | !) \cdot (\text{letter}^* \cdot \text{digit}^*) \cdot (\text{LETTER})$

Recall that, for a list of regular expressions, the function `getToken()` returns the next token from the input that matches one of the regular expressions. If there is more than one match, the longest match is returned. If there is more than one longest match, the token with the longest match that appears first in the list is returned. If there is no match, `ERROR` is returned. If the function `getToken()` is called three times on input `Aa5a5A5555a5555E` until the end of input is reached, the sequence of tokens returned is the following (EOF refers to end of input):

Correct!

☒ R3 R3 ERROR

☐ R1 R1 EOF

☐ none of the above

☐ R1 R1 ERROR

☐ R3 R3 EOF

Question 3

1 / 1 pts

Consider the regular expressions:

$R_1 = (a | b)^* (0^* 1^*) (a | b)^*$

$R_2 = (a | b) (0^* 1^*)^* (a | b)$

$R_3 = 01(R_2^*)$

Which of the following is true?

Correct!

☒ $a000111abab \in L(R_1)$ and $a01100110a \in L(R_2)$

☐ $a010101a \in L(R_1)$ and $a010101a \in L(R_2)$

☐ $aa \in L(R_1)$ and $0101 \in L(R_3)$

☐ $abab0101 \in L(R_1)$ and $ab0101a \in L(R_2)$

Question 4

1 / 1 pts

letter = a | b | c | d

LETTER = A | B | C | D

digit = 4 | 5 | 6 | 7 | 9

Consider the regular expression $R_4 = (\text{digit} \bullet \text{letter} | ? | !) \bullet (\text{letter}^* \bullet \text{digit}^*) \bullet (\text{LETTER})$. Which of the following is correct (more than one choice or no choice can be correct)?

☐ ?!5aA $\in L(R_4)$

Correct!

☒ None of the above

☐ All of the above

☐ 555aA $\in L(R_4)$

☐ !5aA $\in L(R_4)$

Question 5

1 / 1 pts

letter = a | b | c | d

LETTER = A | B | C | D

digit = 4 | 5 | 6 | 7 | 9

Consider the regular expression $R_3 = (\text{LETTER} | \text{digit} | ?) \bullet (\text{letter} | \text{digit})^* (\text{LETTER} | \text{digit})$. Which of the following is correct (more than one choice or no choice can be correct)?

☐ !5aA $\in L(R_3)$

Correct!

☒ 555aA $\in L(R_3)$

Correct!

☒ ?54aA $\in L(R_3)$

Quiz score: 5 out of 5

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