

Next: Subject 1  
25 minutes

2 points / 25 minutes

- a)** Construct a regular expression for matching a phone number in Cluj city. The format may include (or not) the international prefix "0040" or "+40" then country prefix "264" then 6 digits, where the first digit can be 4 or 5
- b)** Define an efficient data structure for storing a configuration in LR(0) parser

Question 1

Correct

Mark 0.50 out of 0.50

Flag question

Consider  $L_1 = \{\epsilon, 0, 00\}$  and  $L_2 = \{\epsilon, 1, 0\}$ . What symbols belong to  $L_1 \oplus L_2$ ?

- ☒ 0
- ☒ 1
- ☒  $\epsilon$
- ☐ 01

Your answer is correct.

The correct answers are:

$\epsilon$

,

1,

0

Question 2

Correct

Mark 0.50 out of 0.50

Flag question

Which of the following matches regexp  $a(ab)^*a$

- ☐ aba
- ☒ aa
- ☒ aaba
- ☐ aabbaa

Your answer is correct.

The correct answers are:

aa,

aaba

Question 3

Correct

Mark 0.50 out of 0.50

Flag question

Consider  $L = \{01, 10\}$ . Which elements belong to  $L^*$ ?

☒ 0110



☐ 010

☒ 0101



☒  $\epsilon$



Your answer is correct.

The correct answers are:

$\epsilon$

,

0101,

0110

Question **4**

Correct

Mark 0.50 out of  
0.50

Flag question

Consider the grammar with productions

$$S \rightarrow aAb$$
$$A \rightarrow aA \mid b$$
$$C \rightarrow bA \mid c$$

Which symbols are inaccessible?

- ☒ A,C
- ☐ C,b
- ☐ C
- ☐ C,c

Your answer is correct.

The correct answer is:

C,c

Question **1**

Correct

Mark 0.50 out  
of 0.50

Consider the grammar:  $G = (\{S, A\}, \{2, 1\}, P, S)$ , with productions

$S \rightarrow 2S1 \mid 1A \mid 2$

$A \rightarrow 1A \mid 1$

Which sequences belong to  $L(G)$ ?

☒ 221



☒ 2111



☐ 21

☐ 12

Your answer is correct.

The correct answers are:

221,

2111

Question **2**

Incorrect

Mark 0.00 out of 0.50

Consider the grammar with productions

$S \rightarrow aAb$

$A \rightarrow aA \mid b$

$C \rightarrow bA \mid c$

Which symbols are inaccessible?

☐ C,b

☒ C

☐ C,c

☐ A,C

✗

Your answer is incorrect.

The correct answer is:

C,c

Question **3**

Correct

Mark 0.50 out of 0.50

Consider the grammar with productions:

$S \rightarrow 0A$

$A \rightarrow 1S \mid AA \mid 0$

Which sequences belong to  $L(G)$ ?

☐ 100

☒ 00

☐ 010

☒ 0100

✓

✓

Your answer is correct.

The correct answers are:

00,

0100

Question **4**

Correct

Mark 0.50 out  
of 0.50

Consider  $L_1 = \{\epsilon, 0, 1\}$  and  $L_2 = \{0, 00\}$ . Which elements belong to  $L_1 L_2$ ?

☒ 00



☒  $\epsilon$



☐ 01

☐ 10

Your answer is correct.

The correct answers are:

$\epsilon$

00

00



Question **1**

Correct

Mark 0.50 out of 0.50

🚩 Flag question

Consider  $L_1 = \{\epsilon, 0, 1\}$  and  $L_2 = \{0, 00\}$ . Which elements belong to  $L_1 \cup L_2$ ?

☒ 00



☐ 01

☒  $\epsilon$



☐ 10

Your answer is correct.

The correct answers are:

$\epsilon$

,

00

Question **2**

Correct

Mark 0.50 out of 0.50

🚩 Flag question

Which of the following matches regexp  $a(ab)^*a$

☒ aa



☒ aaba



☐ aba

☐ aabbaa

Your answer is correct.

Question **3**

Correct

Mark 0.50 out of 0.50

🚩 Flag question

Consider  $L_1 = \{a, aa\}$  and  $L_2 = \{\epsilon, b, bb\}$ . Which elements belong to  $L_1 \cup L_2$ ?

☒ bb



☐ aab

☒  $\epsilon$



☒ a



Your answer is correct.

The correct answers are:

a,

bb,

$\epsilon$

Question **4**

Correct

Mark 0.50 out of 0.50

🚩 Flag question

Consider  $L_1 = \{\epsilon, 0, 00\}$  and  $L_2 = \{\epsilon, 1, 0\}$ . What symbols belong to  $L_1 \oplus L_2$ ?

☒ 0



☐ 01

☒  $\epsilon$



☒ 1



Your answer is correct.

4

50 out of  
question

Consider  $L_1 = \{x, xx\}$  and  $L_2 = \{\epsilon, y, yy\}$ . Which elements belong to  $L_1 \cup L_2$ ?

☐ xxy☐ xy☒ yy☒ x

Your answer is correct.

The correct answers are:

x,

yy



Consider  $L_1 = \{\epsilon, 0, 1\}$  and  $L_2 = \{0, 00\}$ . Which elements belong to  $L_1 \cup L_2$ ?

☐ 10

☐ 01

☒ 00

☒  $\epsilon$



Your answer is correct.

The correct answers are:

$\epsilon$

00





Question 2

Partially correct

Mark 0.17 out of 0.50

Flag question

Consider  $L_1 = \{a, aa\}$  and  $L_2 = \{\epsilon, b, bb\}$ . Which elements belong to  $L_1 L_2$ ?

- ☐ abbb
- ☐ abb
- ☐ ab
- ☒ aa

Your answer is partially correct.

You have correctly selected 1.

The correct answers are:

ab,

aa,

abb



Question 1

Partially correct

Mark 0.25 out of 0.50

Flag question

Consider the grammar  $G = (\{S, A, B, C\}, \{;, id, +, c\}, P, S)$  with P:

$S \rightarrow A ;$

$A \rightarrow BC$

$B \rightarrow id|A|c$

$C \rightarrow + A | e$

Which sequences belong to  $L(G)$ ?

☒  $c + id ;$

☐  $id + id ;$

☐  $id +$

☐  $id + id$

Your answer is partially correct.

Next: Subject 2  
25 minutes

Question **1**

Complete

Marked out of  
2.00

🚩 Flag  
question

2 points / 25 minutes

Construct right linear grammar and finite automaton corresponding to regular expression


$(a+b)^* + (ab)^*$



Question **1**

Not answered

Marked out of  
2.00

 Flag question

2 points / 25 minutes

Construct right linear grammar and finite automaton corresponding to regular expression

$(01 + 10)^* 1^+$

Question **1**

Complete

Marked out of  
2.00

🚩 Flag question

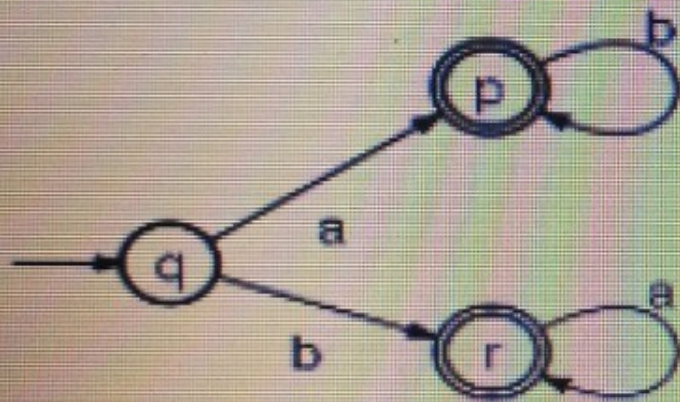
2 points / 25 minutes

Construct right linear grammar and finite automaton corresponding to regular expression

$(01 + 10)^* 1^+$

2 points / 25 minutes

Construct right linear grammar and regular expression corresponding to:



Construct finite automaton and regular expression corresponding to:

$G = (\{S, T, U, V\}, \{0, 1\}, P, S)$ , where

P:

$$S \rightarrow T|1U$$
$$T \rightarrow 1T|1$$
$$U \rightarrow 0U|V$$
$$V \rightarrow 1V|0$$

Next: Subject 3  
40 minutes

Question **1**

Complete

Marked out of  
3.00

🚩 Flag  
question

3 point/35 minutes

Construct the SLR canonical collection, construct the SLR table and parse the sequence  $w$ , for the following grammar  $G = (\{S, A\}, \{a, b, c\}, P, S)$  where

**$P: S \rightarrow aSa \mid bAb$**

**$A \rightarrow cA \mid a$**

and  **$w = ababa$**

Question **1**

Complete

Marked out of  
3.00

🚩 Flag question

3 point/35 minutes

Construct the SLR canonical collection, construct the SLR table and parse the sequence  $w$ , for the following grammar  $G = (\{S, A\}, \{a, b, c\}, P, S)$  where

**$P: S \rightarrow aSa \mid bAb$**

**$A \rightarrow cA \mid a$**

and  **$w = ababa$**



3 points / 35 minutes

Construct FIRST, FOLLOW, LL(1) table and parse the sequence  $w$  for the grammar  $G = (\{S\}, \{a,b,c\}, P, S)$ , where  $P$ :

**$S \rightarrow aSa \mid bSb \mid c$**

and  **$w = abcba$**



Next: Subject 4  
25 minutes

Question **1**

Complete

Marked out of  
2.00

🚩 Flag  
question

2 points / 25 minutes

Construct a push-down automaton corresponding to the language:

$$L = \{a^n b^m c^m \mid n > 0, m \geq 0\}$$

Question **1**

Complete

Marked out of  
3.00

🚩 Flag question

3 points / 35 minutes

Construct FIRST, FOLLOW, LL(1) table and parse the sequence  $w$  for the grammar  $G = (\{Decl, Type, List, T\}, \{int, float, id, \epsilon\}, P, S)$  where:

**$P: Decl \rightarrow Type List$**

**$Type \rightarrow int \mid float$**

**$List \rightarrow id T$**

**$T \rightarrow \epsilon \mid id$**

and  $w = int\ id, id$

Question **1**

Complete

Marked out of  
2.00

🚩 Flag question

2 points / 25 minutes

Construct a push-down automaton corresponding to the language:

$$L = \{a^n b^n c^m \mid n > 0, m \geq 0\}$$

Question 1

Not yet  
answered

Marked out of  
2.00

Flag question

2 points / 25 minutes

Define a grammar corresponding to roman numbers with 3 digits (see table). Then, define an attribute grammar to computer number value in base 10.

1	I
5	V
10	X
50	L
100	C
500	D

Maximum file size: 2MB, maximum num



Files



You can drag and drop files here to add them.

Accepted file types

PDF document .pdf