Started on	Wednesday, 9 October 2024, 1:44 PM
State	Finished
Completed on	Wednesday, 9 October 2024, 2:12 PM
Time taken	27 mins 17 secs
Marks	3.00/3.00
Grade	**3.00** out of 3.00 (**100**%)

Information

Information

This page contains all the problems for this test. The very last problem asks you to contact the person in charge of the exam and tell him or her the 4-digit key given in the problem text. In return you will be given a 5-digit signing code which you must give as the answer to the problem.

This problem does not count towards the final score, but **tests missing this code will not count towards the final grade**.

The following rules apply:

- Total time allowed: 30 minutes. The test will automatically close if time runs out.
- UiA's usual rules in regards to cheating on exams apply.

Question **1**

Correct

Mark 1.00 out of 1.00

Consider the following regular expression.

ex = [A-J]??[0-9]+

Which of the following regular expressions accepts at least the same words as ex?

- [ ] [A-J]?[0-9]?
- [x] [A-J]?[0-9]*
- [x] [A-J]?[0-9]+
- [ ] [A-J]*[0-9]?
- [x] [A-J]*[0-9]*
- [x] [A-J]*[0-9]+
- [ ] [A-J]+[0-9]?
- [ ] [A-J]+[0-9]*
- [ ] [A-J]+[0-9]+
- [ ] None of the above

Question **2**

Correct

Mark 1.00 out of 1.00

Sort the following conditions according to strength.

$x \neq 1$
$x = x$
$x \in \{9,10,11\}$
$x^2 < 0$
$x > 3$

Hints:

- **A** is stronger than **B** if **A** implies **B**.

strongest:	$x^2 < 0$
strong:	$x \in \{9,10,11\}$
medium:	$x > 3$
weak:	$x \neq 1$
weakest:	$x = x$

Question **3**

Correct

Mark 1.00 out of 1.00

Compute the equivalence classes of the set *S* below with respect to the equivalence relation $=\%_{12}=$ (same remainder in division by 12).

S = $\{-14, -11, -10, -9, -4, -1, 0, 2, 3, 4, 6, 8, 9, 10, 12, 14, 15, 18, 19, 20\}$

The result must be given as a set of sets.

{{0,12},{-11},{2,-10,14},{-9,3,15},{4},{6,18},{19},{-4,8,20},{9},{-14,10},{-1}}

Your last answer was interpreted as follows:

$$\{\{0, 12\}, \{-11\}, \{2, -10, 14\}, \{-9, 3, 15\}, \{4\}, \{6, 18\}, \{19\}, \{-4, 8, 20\}, \{9\}, \{-14, 10\}, \{-1\}\}$$

Question **4**

Correct

Mark 0.00 out of 0.00

Signing code

Before closing the test you must answer this problem with a signing code given to you by the person in charge of the test.

Tests missing this signing code will be ignored and will not count towards the final score.

Key: 243

Signing code: 42769

Your last answer was interpreted as follows:

$$42769$$

◄ Test 1 (topics 1-3: Introduction, Concepts, Induction, Recursion, Grammars)

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