Status	Finished
Started	Thursday, 11 September 2025, 12:00 PM
Completed	Thursday, 11 September 2025, 12:25 PM
Duration	24 mins 19 secs
Marks	1.07/3.00
Grade	**1.07** out of 3.00 (**35.59**%)

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**

Incorrect

Mark 0.00 out of 1.00

What is the contraposition of the following formula?

$$(\neg p \vee q) \implies (s \Rightarrow t)$$

Hints:
$\neg(A \wedge B) = \neg A \vee \neg B$
$\neg(A \vee B) = \neg A \wedge \neg B$
$A \implies B = \neg A \vee B$

Select the precedent and the antecedent of the implication.

p ∨ ¬ q ⟹ ¬ s ⇒ ¬ t

Question **2**

Partially correct

Mark 0.67 out of 1.00

Translate the following numbers into the other bases and provide the intermediate division results (in base 10).

2957_{10} = 11001112 $_{3}$ with [2957, 985, 328, 109, 36, 12, 4,

2957_{10} = d22 $_{15}$ with [2957, 197, 13, 0]

12431_{5} = 133315 $_{6}$ with [12431, 2071, 345, 57, 9, 1, 0]

Example:

1234_{10} = 86A$_{12}$ with [1234, 102, 8, 0]

Your last answer was interpreted as follows:

$$11001112$$

Your last answer was interpreted as follows:

$$[2957, 985, 328, 109, 36, 12, 4, 1, 0]$$

Your last answer was interpreted as follows:

$$\mathrm{d22}$$

Your last answer was interpreted as follows:

$$[2957, 197, 13, 0]$$

Your last answer was interpreted as follows:

$$133315$$

Your last answer was interpreted as follows:

$$[12431, 2071, 345, 57, 9, 1, 0]$$

Question **3**

Partially correct

Mark 0.40 out of 1.00

Consider the following EBNF grammar.
Dog → map { Jay }+ { axe Dog }
Fly → Jay cup Dog
Jay → hat [Dog egg] | gym Fly

Translate it into a grammar 4-tuple.
Introduce new nonterminals for embedded iterations and optional parts.
Your answers must be syntactically correct for marking.
Insert spaces as needed for a better overview of your input.

Sample 4-tuple

```
    Terminals = {"a","b","c"}
Nonterminals = {"A","B","C","X1","X2"}
 Start symbol = "A"
        Rules = { ["A", ["B","a","C"]], ["B", ["c","X1"]], ["C", ["c","X2"]], ["X1", ["B","a"]], ["X2", []], ["X2", ["X2","a"]] }
```

```
    Terminals = {"map","axe","cup","hat","egg","gym" }
Nonterminals = {"Dog","Fly","Jay"}
 Start symbol = "Dog"
        Rules = {["Dog",["map","Jay","axe","Dog"]], ["Fly", ["Jay","cup","Dog"]], ["Jay", ["hat","Dog","egg","gym","Fly"]]}
```

Your last answer was interpreted as follows:

$$\{\text{map}, \text{axe}, \text{cup}, \text{hat}, \text{egg}, \text{gym}\}$$

Your last answer was interpreted as follows:

$$\{\text{Dog}, \text{Fly}, \text{Jay}\}$$

Your last answer was interpreted as follows:

$$\text{Dog}$$

Your last answer was interpreted as follows:

$$\{[\text{”Dog”}, [\text{”map”}, \text{”Jay”}, \text{”axe”}, \text{”Dog”}]], [\text{”Fly”}, [\text{”Jay”}, \text{”cup”}, \text{”Dog”}]], [\text{”Jay”}, [\text{”hat”}, \text{”Dog”}, \text{”egg”}, \text{”gym”}, \text{”Fly”}]]\}$$

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: 507

Signing code: 31041

Your last answer was interpreted as follows:

$$31041$$

◄ Technical test

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