

ÉRETTSÉGI VIZSGA • 2006. május 17.

**INFORMATIKA
ANGOL NYELVEN
INFORMATION
TECHNOLOGY**

**EMELT SZINTŰ GYAKORLATI
ÉRETTSÉGI VIZSGA
ADVANCED LEVEL PRACTICAL
FINAL EXAMINATION**

**JAVÍTÁSI-ÉRTÉKELÉSI
ÚTMUTATÓ
KEY AND GUIDE FOR
EVALUATION**

**OKTATÁSI MINISZTERIUM
MINISTRY OF EDUCATION**

Introduction

The exercises are marked in accordance with the guide for evaluation given in the key and guide for evaluation. In the key the marks given for the major logical units are in the bordered parts. The parts without bordering contain the breakdown of the marks and reference to situations where the given mark can be awarded or can not be awarded.

To ensure unified evaluation, please do not divert from the marking in the guide for evaluation. The marks can not be broken down further than indicated in the guide for evaluation. If several solutions are given for the same problem, please evaluate the solution with the most given marks. In the case of several good solutions no extra marks can be awarded.

The evaluation sheet, which only contains the marks for the major evaluation units, can be found at the end of the guide for evaluation. One evaluation sheet should be filled for each examination paper and it should be attached to the examination paper (to the candidate's exercise sheet). The candidate receives this sheet at the seeing of the examination paper. The total marks awarded for the individual exercises, the marks awarded for the exam should also be indicated on the last page of the examination paper, in the tables provided.

For further processing please fill in the electronic guide for evaluation attached to the solution as well.

1. The history of photography

Imported or inserted the text from <i>tortenet.txt</i> into the document and saved it as <i>fototort</i> in the own format of the word processor	1 mark
Page setup	1 mark
The right margin is set to 2 cm, the left margin is set to 1 cm	1 mark
Settings concerning paragraphs	1 mark
The left indent is 4 cm for the complete text	1 mark
Title settings	3 marks
Typed in the title, the font type is Arial (or Sans Serif) and the font size is 16 points	1 mark
The font style is all caps and expanded by 1.5 points	1 mark
Spacing of 12 points before and after the title	1 mark
Set the font style of the names of the people to bold (only for the first appearance)	2 marks
The candidate receives 1 mark it is set for fewer than 4 names.	
Set the font style to italics for words Kodak and Leica	1 mark
Formatting the text	2 marks
Applied justified alignment throughout the text	
If alignment is set correctly in a textbox or at least one paragraph of the text of the history, the mark can be awarded.	1 mark
Automatic hyphenation	1 mark
Inserting the pictures into the text	3 marks
The pictures are inserted into the text (<i>camera.jpg, dagerrotipia.jpg, niepce.jpg, talbot.jpg, leica.jpg, eastman.jpg</i>)	1 mark
If at least two pictures were inserted, the mark can be awarded.	
The photos of people are aligned with the right margin, the other pictures are aligned with the left margin	1 mark
The pictures are aligned with the text (they are placed in accordance with the example)	1 mark
Inserting and formatting the textboxes	4 marks
There are textboxes between the left margin and the text	1 mark
If there are at least two textboxes, the mark can be awarded.	
The given texts (<i>fogalom.txt</i>) are inserted into the textboxes, the font size of the texts is 9 points	1 mark
If the student inserted the text into at least one textbox and set the font size, the mark can be awarded.	
The Lithography textbox is 6.5 cm high and 3.5 cm wide, the textbox does not have borders	1 mark
The size and the border of the other textboxes are as given	1 mark
Inserting picture Kodak	2 marks
Inserted picture <i>kodak.jpg</i> into the given place	1 mark
Modified the dimensions of picture <i>kodak.jpg</i> so that it fits into the given area	1 mark
The table appears on new page	1 mark

Table	9 marks
The table has 10 rows and 4 columns and the borders are in accordance with the example	1 mark
The height of the table is 20 cm with equal row heights, the column widths are 9 cm, 1 cm, 1 cm, 1 cm, respectively	1 mark
Inserted or copied the text into the first column from file <i>kronologia.txt</i>	1 mark
The font size is 8 points, the text is aligned centered vertically in the cells	1 mark
The second column contains the years, the years are aligned centered and the font style is bold	1 mark
An arrow is drawn into the third column	1 mark
The length of the arrow is 19 cm and its colour is orange (a deviation of 0.5 cm can be accepted if the arrow fits into the cell)	1 mark
Merged the cells of the fourth column, the font type of the title appearing in it is Arial (or Sans Serif) and the font size is 14 points	1 mark
The direction of the title and the years is vertical	1 mark
Total:	30 marks

2. Remainder of addition

Saved the table as <i>maradek</i>	1 mark
Filled column <i>A</i> and the first row with the given values	1 mark
Filling range <i>B2:D106</i> in the table using a function	2 marks
Calculated the remainder for at least one cell in cells <i>B2:D106</i> Example: <code>B2: =MOD(\$A2;B\$1)</code>	1 mark
Calculated the remainder everywhere in cells <i>B2:D106</i>	1 mark
Determining the values in <i>H2:J3</i>	4 marks
Determined the remainder of the division when the number in cell <i>G2</i> is divided by 3 using a function or functions and table <i>A1:D106</i> Example: Into cell <i>H2</i> : <code>=VLOOKUP(\$G2;\$A\$2:\$D\$106; 1+MATCH(H\$1;\$B\$1:\$D\$1);0)</code>	2 marks
Determined the remainders in the other cells as well	1 mark
If the result is correct if the applied function is copied within the range	1 mark
If the candidate calculated the remainders in range <i>H2:J3</i> without using the table, only 1 mark can be awarded out of the 4.	
Calculating the values in <i>H4:J4</i>	1 mark
Determined the sum of cells <i>H2:H3</i> using a summing function or formula	1 mark

Determining the value of <i>G5</i>	4 marks
The candidate could handle the combination (that is, the 3 remainders) as a single unit	
Example: Into cell K5: =100*H5+10*I5+J5 Into cell E2: =100*B2+10*C2+D2	2 marks
The candidate could determine the position of the combination handled as a unit in the table using a function	
Example: =INDEX(A2:A106;MATCH(K5;E2:E106;0))	2 marks
If the concept applied in the solution of the exercise is correct, full mark should be awarded for other calculation methods as well.	
Formatting the table	2 marks
Formatted table <i>A1:D106</i> in accordance with the example	
The mark can be awarded if the borders or the background colour was set correctly.	1 mark
Formatting table <i>G1:J5</i>	
The mark can be awarded if the font colour or the background colour was set correctly.	1 mark
Total:	15 mark

3. Final examination

For these exercises, the queries should be evaluated regardless of the results of the queries.

Creating the database (<i>erettsegi</i>)	2 marks
Created database <i>erettsegi</i>	1 mark
Created tables <i>vizsgazo</i> , <i>vizsga</i> , <i>vizsgatargy</i> from the txt files with the same name (the mark can only be awarded if each table exists)	1 mark
Setting the fields and the keys	2 marks
The keys in the tables are correct, a field with identifying function is inserted into table VIZSGA	1 mark
The given fields are of the correct type	1 mark
Should be marked together for the remaining exercises	2 marks
In each saved query exactly the required fields appear	1 mark
Saved each created query as the name required (the mark can be awarded if at least 4 queries were created)	1 mark
Query 3evf9	2 marks
Filtering for 9 th grade	1 mark
Ordered by class, within class by name	1 mark
Example: SELECT vizsgazo.nev, vizsgazo.osztaly FROM vizsgazo WHERE vizsgazo.osztaly LIKE "9*" ORDER BY vizsgazo.osztaly, vizsgazo.nev;	
Query 4irmax	1 mark
Selecting the subjects with the highest score (ordering, displaying the first)	1 mark

Example:

```
SELECT TOP 1 vizsgatargy.nev
FROM vizsgatargy
ORDER BY vizsgatargy.irmax DESC;
```

Query 5bukas	2 marks
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Use of several tables 1 mark

Filtering for written score 1 mark

Example:

```
SELECT vizsgazo.nev, vizsgatargy.nev
FROM vizsgazo, vizsga, vizsgatargy
WHERE vizsga.irasbeli<vizsgatargy.irmax/10 And
      vizsgazo.azon=vizsga.vizsgazoaz And
      vizsga.vizsgatargyaz=vizsgatargy.azon;
```

Query 6atlag	3 marks
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Correct application of functions COUNT and AVG 1 mark

Grouping by subject names 1 mark

Filtering for the class 1 mark

Example:

```
SELECT vizsgatargy.nev, COUNT(vizsga.azon) AS
      letszam, AVG(vizsga.szobeli) AS szobeli,
      AVG(vizsga.irasbeli) AS irasbeli
FROM vizsgazo, vizsga, vizsgatargy
WHERE vizsgazo.osztaly="12/A" And
      vizsgazo.azon=vizsga.vizsgazoaz And
      vizsga.vizsgatargyaz=vizsgatargy.azon
GROUP BY vizsgatargy.nev;
```

Query 7teljesitmeny	4 marks
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Creating field *teljesitmeny* (of real type) 1 mark

Creating an update query (UPDATE) 1 mark

Use of several tables 1 mark

Using a calculated field 1 mark

Example:

```
UPDATE vizsga, vizsgatargy SET teljesitmeny =
      (vizsga.szobeli+vizsga.irasbeli)/(vizsgatargy.
      szomax+vizsgatargy.irmax)
WHERE vizsga.vizsgatargyaz=vizsgatargy.azon;
```

Query 8jobb	5 marks
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Use of several tables 1 mark

Filtering for subject History and for the grades 1 mark

Building a subquery or auxiliary table into the solution 1 mark

Correct use of function AVG in the subquery or auxiliary query 1 mark

Use of several tables and filtering for the subject in the subquery or auxiliary query 1 mark

Example:

```
SELECT vizsgazo.nev
FROM vizsgazo, vizsga, vizsgatargy
WHERE vizsgazo.azon=vizsga.vizsgazoaz AND
      vizsga.vizsgatargyaz=vizsgatargy.azon AND
      vizsga.irasbeli>(
      SELECT Avg(vizsga.irasbeli)
      FROM vizsga, vizsgatargy
      WHERE vizsga.vizsgatargyaz=vizsgatargy.azon
      AND vizsgatargy.nev="History"
      )
AND vizsgatargy.nev="History"
AND (vizsgazo.osztaly LIKE "11*" OR
      vizsgazo.osztaly LIKE "12*");
```

Query 9dombi	4 marks
Creating a make-table query	1 mark
Use of several tables	1 mark
Filtering for the required classes and the subject	1 mark
Grouping by class and correct use of the MAX function	1 mark
Example:	
<pre>SELECT vizsgazo.osztaly, max(vizsga.irasbeli) AS legjobb INTO dombi FROM vizsgazo, vizsga, vizsgatargy WHERE (vizsgazo.osztaly Not Like "11*" Or vizsgazo.osztaly="11/C") And vizsgatargy.nev="Mathematics" And vizsgazo.azon=vizsga.vizsgazoaz And vizsga.vizsgatargyaz=vizsgatargy.azon GROUP BY vizsgazo.osztaly;</pre>	
Query 10jeles	3 marks
Use of several tables	1 mark
Filtering for the achieved score	1 mark
Grouping by class and correct use of the COUNT function	1 mark
Example:	
<pre>SELECT vizsgazo.osztaly, count(vizsga.azon) FROM vizsgazo, vizsga WHERE vizsga.szobeli+vizsga.irasbeli>=90 AND vizsgazo.azon=vizsga.vizsgazoaz GROUP BY vizsgazo.osztaly;</pre>	
Total:	30 marks

4. Protein

Source code with name <i>feherje</i> exists	1 mark
Loading the file	3 marks
One data is read from file <i>aminosav.txt</i> successfully	1 mark
Data of one amino acid is read correctly	1 mark
Each data is read	1 mark
Determining relative molecular mass	3 marks
Uses the given atomic masses correctly to determine molecular mass	1 mark
Gives correct result for at least 1 amino acid	1 mark
Gives correct result for each amino acid	1 mark
Writing the results into file (<i>eredmeny.txt</i>)	3 marks
Creates file <i>eredmeny.txt</i> using the program	1 mark
At least 1 data appears in the file	1 mark
The exercise number appears before the written data in every case	1 mark
The mark can not be awarded if nothing is written out but can be awarded if the exercise number is written in vain – the exercise does not require the writing out of data.	

Ordering	9 marks
Determined one extreme value correctly	1 mark
The amino acids with the smallest or greatest molecular mass appear at the right place (name and mass are correct)	1 mark
The masses are arranged into order correctly	2 marks
The names are arranged together with masses	2 marks
The corresponding data are kept together	1 mark
Worked with collected data or arranged the other data of the amino acids as well.	
The result is written on the screen, in a line the identifier and the molecular mass are separated by a space	1 mark
The result is written into file <i>eredmeny.txt</i> , in a line the identifier and the molecular mass are separated by a space	1 mark
Empirical formula of BSA	11 marks
Reads data from file <i>bsa.txt</i>	1 mark
Reads each data (even without storing into an array)	1 mark
Finds at least one letter among the amino acids	1 mark
Calculates correctly for at least one atom (within an amino acid)	1 mark
Calculates correctly for each atom	1 mark
Takes each amino acid into consideration	1 mark
Takes the leaving of the water molecule into consideration during or after calculation	1 mark
Calculates correctly with the leaving of the water molecule (n-1 O and 2n-2 H less)	1 mark
Gives the values in the empirical formula correctly	1 mark
The solution can only differ in the order of the list. The numeric values assigned to the individual atoms are correct.	
The result appears on the screen in one line, separated by spaces	1 mark
The result appears in file <i>eredmeny.txt</i> in one line, separated by spaces	1 mark
Splitting with Chimotripsine	9 marks
Gives the condition for splitting correctly (based on key letter or abbreviation, checking for three values)	2 marks
Determines one splitting position correctly (first or last member)	1 mark
Determines the length of one segment correctly	1 mark
Chooses the longest segment	2 mark
Gives all three data correctly (length, start, end)	1 mark
Writes the result on the screen	1 mark
The data are named correctly	1 mark
Number of Cisteines in the first segment	6 marks
Counts Cisteines	2 marks
Gives correct condition for the end of counting	2 marks
Writes the result on the screen	1 mark
Answer is written as a complete sentence	1 mark
Total:	45 marks

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1. The history of photography

Imported or inserted the text from <i>tortenet.txt</i> into the document and saved it as <i>fototort</i> in the own format of the word processor	1 mark	
Page setup	1 mark	
Settings concerning paragraphs	1 mark	
Title settings	3 marks	
Set the font style to bold for the names of the people (only for the first appearance) The candidate receives 1 mark if he/she set it for fewer than 4 names.	2 marks	
Set the font style to italics for words Kodak and Leica	1 mark	
Formatting the text	2 marks	
Inserting the pictures into the text	3 marks	
Inserting and formatting the textboxes	4 marks	
Inserting picture Kodak	2 marks	
The table appears on new page	1 mark	
Table	9 marks	
Total:	30 marks	

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2. Remainder of addition

Saved the table as <i>maradek</i>	1 mark	
Filled column <i>A</i> and the first row with the given values	1 mark	
Filling range <i>B2:D106</i> in the table using a function	2 marks	
Determining the values in <i>H2:J3</i>	4 marks	
Calculating the values in <i>H4:J4</i>	1 mark	
Determining the value of <i>G5</i>	4 marks	
Formatting the table	2 marks	
Total:	15 marks	

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3. Final examination

Creating the database (<i>erettsegi</i>)	2 marks	
Setting the fields and the keys	2 marks	
Should be marked together for the remaining exercises	2 marks	
Query 3 <i>evf9</i>	2 marks	
Query 4 <i>irmax</i>	1 mark	
Query 5 <i>bukas</i>	2 marks	
Query 6 <i>atlag</i>	3 marks	
Query 7 <i>teljesitmeny</i>	4 marks	
Query 8 <i>jobb</i>	5 marks	
Query 9 <i>dombi</i>	4 marks	
Query 10 <i>jeles</i>	3 marks	
Total:	30 marks	

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4. Protein

Source code with name <i>feherje</i> exists	1 mark	
Loading the file	3 marks	
Determining relative molecular mass	3 marks	
Writing the results into file (<i>eredmeny.txt</i>)	3 marks	
Arranging into increasing order	9 marks	
Empirical formula of BSA	11 marks	
Splitting with Chimotripsine	9 marks	
Number of Cisteines in the first segment	6 marks	
Total:	45 marks	