

**ÉRETTSÉGI VIZSGA • 2023. október 25.**

# **DIGITÁLIS KULTÚRA ANGOL NYELVEN**

## **KÖZÉPSZINTŰ GYAKORLATI VIZSGA**

**a 2020-as Nat szerint tanulók számára**

**2023. október 25. 8:00**

**Időtartam: 225 perc**

**Beadott dokumentumok**

**Piszkozati pótlapok száma**

**Értékelésre az alábbi állományokat adom be:**

Szövegszerkesztés	
Vizuális elemek	
Táblázatkezelés	
Adatbázis-kezelés	
Algoritmizálás és programozás	A program forráskódját tartalmazó állomány nevét adja meg!

**OKTATÁSI HIVATAL**



## Important information

**Devices allowed** for the exam: computer assigned to the candidate, paper, pen, pencil, ruler, sealed notepaper.

You can take **notes** on the internal pages of the exercise sheet and the notepaper, these should be submitted at the end of the exam but their content will not be evaluated.

The exercises **can be solved in any order**.

Please pay attention to **frequent saving** (every 10 minutes); it is suggested that you save your work every time you start a new exercise.

Save your exam work in the **designated exam directory**. Check that this directory is accessible; if it is not accessible, notify the supervising teacher at the beginning of the exam.

**Save** your works **in the designated exam directory** and at the end of the exam **check** that every solution is in the given directory because only those solutions can be evaluated. Check that the files to be submitted are readable because files that cannot be opened cannot be evaluated.

If you solve the database management exercise with LibreOffice Base, then you should submit the SQL commands describing update queries either as part of the LibreOffice Base database file or as a separate text file. If you submit them as a text file, the name of the text file should refer to its contents clearly (e.g. *SQL\_commands.txt*) and the required query name should be displayed next to the command in the file.

If you use a **MySQL** database engine, the data of the database should also be saved in a so-called “**dump**” file.

The **source files** can be found in the exam directory.

It is suggested that you **read through** the exercises first, then solve the individual exercise parts one by one.

If your computer has **technical problems**, indicate it to the supervising teacher. The fact of indication and the observed problem will be recorded. The lost time will be added to the duration of the exam. If the problem is not of computer nature, the correcting teacher should take the description of the case in the record into consideration. (The system administrator cannot help the candidate with the solution of the exercises.)

At the end of the exam you should indicate **the name of the files submitted for evaluation** on the first page of the exercise sheet. For the algorithmisation and programming exercise it is enough to indicate the name of the file that contains the source code of the program. When finishing the exam, do not leave the room until you have done so and have shown it to the supervising teacher.



## 1. Death cap

Many mushroom species in nature are poisonous. Poisonous mushroom can be classified among others by the type of poisoning. One of the most critical mushroom poisoning is Phalloides syndrome, which is caused by the large mushroom death cap. In this exercise you have to create an information sheet based on the following description and example. You have to use text file *mushroomsourcesource.txt*, which is UTF-8 encoded, and image files *dc\_1.jpg*, *dc\_2.jpg*, *dc\_3.jpg* and *agaric.png* for the document.

*Depending on the word processor used, the layout of lines and pages may differ from the example.*

1. Create document *death\_cap* in the word processor using file *mushroomsourcesource.txt*; save it in the default format of the program. The created document should not contain unnecessary spaces and empty paragraphs.
2. The orientation of the document is portrait and the page size is A4. Set the left and right margins to 2.3 cm and the bottom and top margins to 2.5 cm. (If in the word processor the used header takes away space from the text body, then set the top margin to 1.2 cm and the header to 1.3 cm.)
3. Use the following settings in the document unless specified else in the exercise.
  - a. The font type is EB Garamond. Set the font size of the text body to 12 points.
  - b. Set the line spacing of the paragraphs to single and the spacing before and after them to 0 and 6 points, respectively.
  - c. The paragraphs are aligned justified.
  - d. Use automatic hyphenation in the whole document.
4. Type expressions “Poisonous mushrooms” and “Phalloides syndrome” into the header with the layout shown in the example. The font size is 11 points, set the font style according to the example.
5. Border the contents of the header with a line of thickness 1.5 points between the left and right margins according to the example.
6. Insert file *agaric.png* and align it to the right side of the header. The picture should not cover the line.

*The exercise continues on the next page.*

7. Move the text between “<**Highlighted section**>” and “<**End of highlighted section**>” in the source text into a text box or frame according to the example. Delete the texts marking the start and the end of the highlighted section. Format the text box or frame and the text in it as follows.
  - a. Align the text box or frame to the right margin.
  - b. Set the size and the padding of the text box so that it fits next to the title and the three paragraphs following it and it contains the text in the layout shown in the example.
  - c. The font size of texts “**Scientific classification**” and “**Scientific name**” is 11 points, the font style is bold, the background colour is brown, RGB code (111, 78, 55) in the whole width of the text box, the font colour is white.
  - d. The font size of the other texts is 10 points.
  - e. In the section “**Scientific classification**” ensure that no spacing appears in the paragraphs shown in the example. The font style of the classification levels is bold.
  - f. Insert picture *dc\_1.jpg* under the scientific name of the mushroom and resize it keeping the aspect ratio so that its height becomes 5 cm. Align both the scientific name of the mushroom and the picture centred horizontally.
8. Format the title and the four subtitles as follows.
  - a. Use font size 18 points for the title and 14 points for the subtitles.
  - b. The font style of the title and the subtitles is bold.
  - c. The spacing before and after the title and the subtitles is 6 points.
9. In the first paragraph, format the scientific name of the species given in brackets using italic font style.
10. In the three paragraphs after subtitle “**Characteristics**”, format the first word and the colon after it using bold and italic font style.
11. Insert picture *dc\_2.jpg* next to the paragraph describing the “**Cap**” and align it right. Set the height of the picture keeping the aspect ratio according to the example, set the space between the picture and the text to 0.3 cm.
12. Ensure that the section describing the “**Stem**” starts at the top of the second page according to the example. Highlight words “**volva**” and “**ring**” in this paragraph using bold font style. Insert picture *dc\_3.jpg* into the position shown in the example, align it left. Set the height of the picture according to the example, to the height of the paragraph keeping the aspect ratio, set the space between the picture and the text to 0.3 cm.
13. Convert the last two paragraphs into a numbered list according to the example so that the number is at the left margin and the text starts 1 cm from the left margin.

25 marks

## Example for the Death cap exercise:

Poisonous mushrooms  
Phalloides syndrome

### Death cap

Death cap (*Amanita phalloides*) is one of the best-known representatives of the genus *Amanita*, which includes nearly 600 species worldwide and belongs into the Amanitaceae family within the order of cap mushrooms. In Europe, together with its related species (fool's mushroom, destroying angel), it is one of the large mushrooms causing the most serious - often fatal - poisonings.


Widespread on our continent, it occurs under both deciduous and coniferous trees. Its fruiting bodies appear from summer to autumn. Its cap is most often greenish, while its gills and stem are dominated by white.

Moreover, death cap resembles countless edible mushroom species that are commonly eaten throughout Europe. Due to its active ingredients, it is also considered the most dangerous of all known poisonous mushroom species; it can be associated with the vast majority of deaths caused by mushroom poisoning. Because of frequent poisonings, its toxins have been researched for a long time, most of which have already been isolated. Among these, the most important component is  $\alpha$ -amanitin, which attacks the liver and the kidneys. The antidote is not known yet.

#### Characteristics

**Cap:** 4-15 cm in diameter, most often yellowish-green, olive-green or brownish-green in colour, but occasionally - especially during the rainy season - it can be paler, greyish. On its surface elongated spots of different shades can be observed; for this reason, several authors describe it as having a radial-fibrous pattern, although this is only an optical illusion. The colour distribution of the cap also varies: often the darkest green shade is observable in the middle, but sometimes it is this part that is paler. The edge of the cap is almost always the palest, sometimes almost whitish. Its shape is initially ovoid, hemispherical, the edge is slightly curled when young. As it matures, it becomes flattened and can even be completely flat. Its surface is smooth, its edges are not ribbed. The cap skin is dry when dry and sticky when wet. There are usually no remnants of a whitish flake to it. The flesh of the cap is white, just greenish; its maximum thickness is 4.5-7.5 mm.

**Gills:** dense, free-standing at the stem, or very weakly attached. They are 6-9 mm, they are not of the same length. Their colour is yellowish-green tint when viewed from the side. They can turn discoloured when damaged.




Amanita phalloides

Page 1

Page 2

Poisonous mushrooms  
Phalloides syndrome



**Stem:** 6-15 cm long, 0.8-1.7 cm thick. It is slightly lighter than the cap, but it can rarely be called whitish, it can be pale yellow under the ring and distinctly yellow at the base of the stem. The greenish-yellowish-green snakeskin-like pattern is more or less always recognizable. The base of the stem is tuberos and white in colour, leathery, with a very soft **volva** on it, which often sinks into the ground; when the mushroom is picked, it may remain in the soil or in the debris. The **ring** on the upper part of the stem is whitish in colour and can be up to 3 cm wide. It hangs down like a membrane, its upper side is slightly ribbed; the bottom is often darker, sometimes the colour is similar to the cap.

Its smell is sweet, honey-like, and can become unpleasant when old. The spore powder is white, the spores are spherical, their size is  $8-10 \times 7-9 \mu\text{m}$ .

#### Occurrence

The death cap is a widespread mushroom in Europe. It is also very common in Hungary: it occurs almost everywhere where suitable partner tree species can be found.

The fungus is ectomycorrhizally attached to many deciduous and some coniferous tree species. Its most common mycorrhizal partners - under which it appears - are beech, oak, sweet chestnut, birch, hazel, hemlock and some pine species.

#### Toxicity

As its name suggests, the death cap is a seriously poisonous mushroom: the majority of fatal mushroom poisonings are caused by this species worldwide. It is estimated that about 30 grams, i.e. half of a full-grown cap, of the mushroom is enough to kill an adult person. Unfortunately, the active ingredients of the death cap do not decompose as a result of cooking, freezing, or long-term drying.

#### Symptoms

Victims who survived the poisoning report the death cap to have a pleasant taste. This fact and the relatively long delay of the appearance of the symptoms (6-24 hours) make poisoning particularly dangerous, since the liver of an unsuspecting victim usually suffers fatal damage during this time.

1. The first stage of poisoning begins with stomach complaints, then continues with irrepressible vomiting and diarrhoea (gastrointestinal phase). A poisoned person often has fever, there is a risk of dehydration, and hypotension and tachycardia may appear.
2. These symptoms resolve 2-3 days after consuming the mushroom. This is then that the second stage of poisoning occurs (hepatorenal phase), during which palpable liver enlargement, jaundice and delirium occur as a result of severe liver damage, followed by kidney failure and the failure of the whole circulatory system. In the absence of medical treatment, the symptoms lead to death within 6-16 days.

## 2. James Webb Space Telescope

The James Webb Space Telescope is an infrared space telescope with a diameter of 6.5 metres that will take over the role of Hubble. Create the poster introducing the James Webb Space Telescope using a raster graphics image editor according to the following description and the example. The texts to be placed on the image can be found in file *spacetelescope.txt*, which is an UTF-8 encoded simple text file. The pictures required for the poster are *nebula.png*, *model.png*, *space.png*, *webblogo.png*.

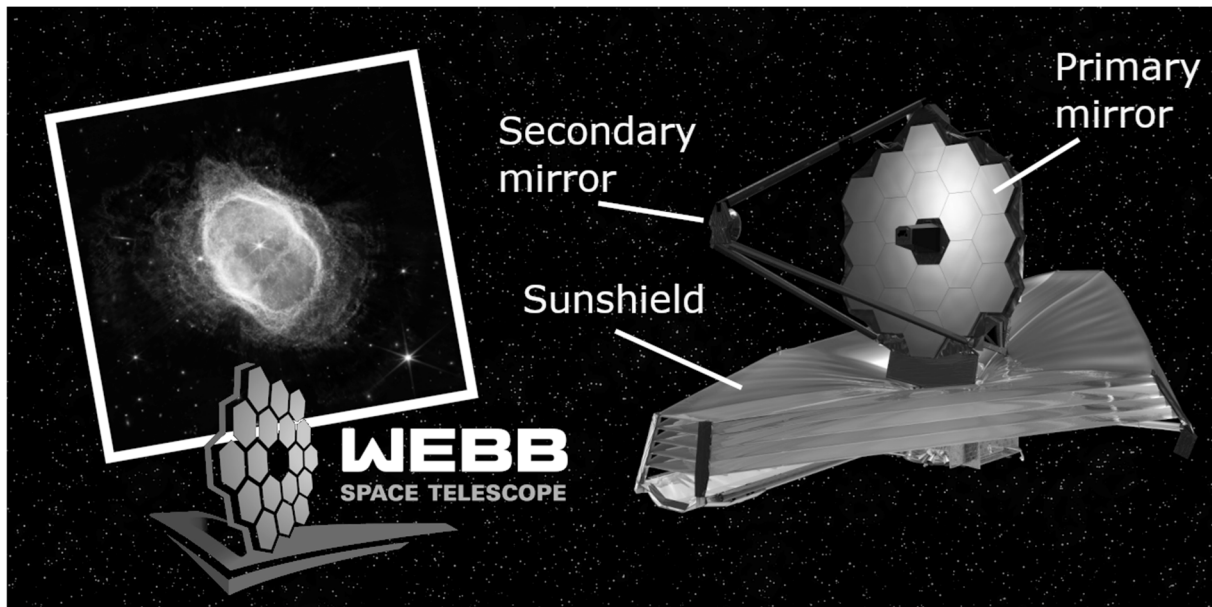
1. Create an image of width 1280 pixels and height 640 pixels, save your work in the default format of the image editor as *spacetelescope*.
2. Insert picture *space.png* into a separate layer, which will be the background of the poster. The name of the layer should be *space*. (You do not have to resize or crop picture *space.png* even though it is greater than the image to be created.)
3. Insert picture *model.png* into a separate layer, then perform the following operations.
  - a. Resize the picture keeping the aspect ratio so that its width becomes 600 pixels.
  - b. Reflect the picture horizontally.
  - c. Place the picture so that it gets to the right of the midline of the poster and its distance from the top of the poster becomes at least 30 pixels but it should not extend beyond the poster.
  - d. Set text *model* as the name of the layer.
4. Insert picture *nebula.png* into a separate layer, then perform the following operations.
  - a. Add a border of white colour and width 10 pixels to the image. Place the border so that the dimensions of the image do not change, so the border should cover the edges of the picture and should not be around it.
  - b. Rotate the picture through 10 degrees in the direction shown in the example.
  - c. Place the picture so that it gets to the left of the midline of the poster. The bottom left corner of the picture should be at least 140 pixels from the bottom of the poster but should not extend beyond it.
  - d. Set text *nebula* as the name of the layer.
5. Create a new layer named *lines*. On this layer draw the three white line segments that point at the primary mirror, the secondary mirror and the sunshield according to the example. The width of the line should be at least 3 pixels but it should not be more than 10 pixels.
6. Insert texts “Primary mirror”, “Secondary mirror” and “Sunshield” on three text layers and format them according to the followings:
  - a. The font type is Raleway, the font colour is white.
  - b. The font size is 40 pixels.
  - c. Pay attention to the texts not covering either the model of the space telescope or the lines.



7. Insert picture *webblogo.png* into a separate layer, then perform the following operations.
  - a. Resize the picture keeping the aspect ratio so that its height becomes 250 pixels.
  - b. Make the black pixels of the picture transparent.
  - c. Place the layer into the bottom left quarter of the poster according to the example so that text Webb gets under the picture showing the nebula but the left-hand side of the logo covers it according to the example. Pay attention to the complete logo being visible, it should not extend beyond the poster.
  - d. Set text *logo* as the name of the layer.
8. If required, modify the order of the layers so that you get the result shown in the example.

20 marks

**Example:**



### 3. TCR8

Transcontinental Race (TCR) is a bicycle race testing stamina. The aim of the race is to cover a distance of at least 4000 km across Europe in at most two weeks. Contestants can rely only on themselves, they get no help, they have to carry everything that they need. There are four checkpoints on the race, the contestants must pass these but otherwise they are free to determine their route. Everyone carries a tracker device that records data continuously.

In this exercise you have to work with the data of the individual contestants of the 8<sup>th</sup> TCR race. The data of the individual contestants of the 2022 race are given in file `tcr8_individual.txt`. You will also need file `tcr8_stat.txt` to solve the exercises. Both files are tagged by tabs and have UTF-8 encoding.

Solve the following exercises using a spreadsheet processor.

*During the solution take the followings into consideration:*

- *Whenever possible, use a formula, function or reference in the solution.*
- *There are parts in the exercise that use the results from a previous question. If you could not solve the previous part completely, use its solution as it is, or enter a reasonable result and work on with that value. This way you can receive marks for that exercise part as well.*
- *You can perform auxiliary calculations to the right of column K.*

1. Import text file `tcr8_individual.txt` into the spreadsheet processor starting from cell *A1*. The name of the worksheet should be **individual**. Save your work as `tcr8` in the default format of the spreadsheet processor.

The table contains the number and the name of the contestants, the time of passing the four checkpoints and the finish point and the distance covered. If no time data is recorded, then either the contestant gave up the race or he/she did not race according to the rules so was disqualified before the given checkpoint.

2. Order the data of the table into increasing order by the time of passing the finish point. Solve the following exercises so that they give the correct result even if the data are ordered by another data column.
3. Import file `tcr8_stat.txt` into a new worksheet starting from cell *A1*. The name of the worksheet should be **statistics**.
4. On worksheet **individual**, in the cells of range *I3:I192* determine the extra distance covered by the contestants relative to the official distance using a formula that can be copied flawlessly. The official distance can be found on worksheet **statistics**, refer to that in your solution. If a contestant did not finish the race because he/she gave it up or was disqualified, then the cell should be left blank.

You have to solve the following exercises on worksheet **statistics**.

5. In cell *B2* determine the number of contestants of the individual race.
6. In cell *B3* determine the number of contestants reaching the finish point.
7. In cell *B4* determine the ratio of the contestants who either gave up the race or were disqualified and display it in percent format according to the example.
8. In cell *B5* determine the number of contestants who finished the race in the time given in the race specification, that is, at most two weeks.
9. In cells *B6* and *B7* determine the time of arrival at the finish and the name of the winning contestant.

10. In cell *B8* determine the time required for the winning contestant to finish the race and display it according to the example. (You can format the content of the cell using custom number format or by concatenating the appropriate function values.)
11. In cell *B10* determine the average distance covered by the contestants who finished the race. Display the result with two decimal figures.
12. Perform the following formatting on the two worksheets according to the example and the description.
  - a. The background colour of cells containing calculated values should be greyish blue, RGB code (170, 185, 200) on both worksheets.

Formatting worksheet *individual*

- b. Merge the appropriate cells in the first two rows.
- c. Format and align the contents of the cells of the first two rows according to the example. Set the row heights according to the example. Set the background colour of the cells to light grey, in range *C1:G1* to light yellow, RGB code (255, 240, 200). Use line breaks in the cells shown in the example.
- d. Set the borders of the table (*A1:I192*) according to the example.
- e. Align the contents of the cells containing contestant numbers centred horizontally.
- f. In columns *H* and *I* set the number format according to the example.
- g. Set the column widths so that all data is visible and the columns in range *C:G* have the same width.

Formatting worksheet *statistics*

- h. Set the number format of the values in the cells of column *B* according to the example.
- i. Set the column widths so that each data is visible.

25 marks

Example for worksheet *individual*:

	A	B	C	D	E	F	G	H	I
1	Number	Rider	KP1 Krupka/Czechia	KP2 Passo di Gavia/Italy	KP3 Durmitor NP/Montenegro	KP4 Drumul Strategic/Transalpina	FINISH Burgas	Distance travelled	Relative to the official distance
2			Arrival	Arrival	Arrival	Arrival	Arrival		
3	100	Christoph Strasser	2022.07.26 14:33	2022.07.28 12:48	2022.07.30 21:06	2022.08.01 15:56	2022.08.03 12:00	4 578,66 km	478,66 km
4	233	Krystian Jakubek	2022.07.26 12:13	2022.07.28 12:45	2022.07.31 00:59	2022.08.02 08:13	2022.08.03 19:57	4 413,61 km	313,61 km
5	75	Adam Bialek	2022.07.26 11:53	2022.07.28 03:31	2022.07.30 18:11	2022.08.01 16:41	2022.08.03 20:40	4 442,74 km	342,74 km
6	42	Marin De Saint-Exupéry	2022.07.26 20:44	2022.07.28 19:28	2022.07.31 04:56	2022.08.02 11:18	2022.08.03 22:34	4 586,80 km	486,80 km
7	160	Pawel Pulawski	2022.07.26 12:22	2022.07.28 12:31	2022.07.31 00:11	2022.08.02 06:57	2022.08.03 23:33	4 665,96 km	565,96 km
8	50	Ulrich Bartholmoes	2022.07.26 10:49	2022.07.28 03:23	2022.07.30 18:54	2022.08.01 16:15	2022.08.03 23:51	4 583,90 km	483,90 km
9	197	Robin Gempeler	2022.07.26 10:58	2022.07.28 04:54	2022.07.31 05:19	2022.08.02 08:13	2022.08.04 05:15	4 357,49 km	257,49 km
10	1	Fiona Kolbinger	2022.07.26 15:37	2022.07.28 19:34	2022.07.31 18:44	2022.08.02 16:08	2022.08.04 11:44	4 703,87 km	603,87 km
11	70	Andrew Phillips	2022.07.26 16:52	2022.07.28 18:59	2022.07.31 17:14	2022.08.02 18:02	2022.08.04 14:24	4 370,80 km	270,80 km
12	232	Krisjanis Ratniks	2022.07.26 17:38	2022.07.28 20:08	2022.07.31 18:31	2022.08.02 19:44	2022.08.04 19:33	4 476,54 km	376,54 km
13	111	David Mixell	2022.07.26 18:47	2022.07.28 22:07	2022.07.31 19:49	2022.08.03 01:12	2022.08.04 22:21	4 526,51 km	426,51 km
14	161	Lombard Stéphane	2022.07.26 13:18	2022.07.28 17:14	2022.07.31 13:45	2022.08.02 20:59	2022.08.04 23:17	4 430,83 km	330,83 km
15	107	Colin Smith	2022.07.26 18:07	2022.07.28 19:15	2022.07.31 18:27	2022.08.02 20:31	2022.08.05 00:37	4 521,67 km	421,67 km
16	12	Brendan Cassidy	2022.07.26 17:32	2022.07.28 22:47	2022.07.31 20:18	2022.08.03 02:15	2022.08.05 02:10	4 403,29 km	303,29 km

Example for worksheet *statistics*:

	A	B
1	Time of departure:	2022.07.24 22:00
2	Number of starting riders:	190
3	Number of finishing riders:	95
4	Dropout rate:	50%
5	Riders finishing in two weeks:	51 riders
6	Time of arrival of the winner:	2022.08.03 12:00
7	Winner:	Christoph Strasser
8	Winning time:	9 nap 14:00
9	Official distance:	4 100 km
10	Average distance travelled by finishing riders:	4 535,10 km

## 4. Csöpi films

The Csöpi films hallmarked by Bujtor István's name are popular to this day. This exercise processes the data of the seven finished Csöpi-films. The required data can be found in files *films.txt*, *cast.txt* and *roles.txt*.

1. Create a new database named *csopi*. Import the three text files provided, which are tagged by tabs and have UTF-8 encoding, into the database with table names that correspond to the file names (*films*, *cast*, *roles*). The first line of the files contains the field names. Upon creation set the appropriate types and the primary keys.

### Tables:

*films* (*id*, *title*, *pyear*, *length*)

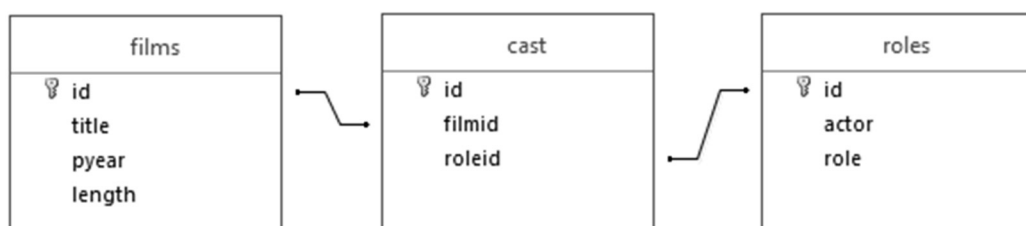
<i>id</i>	The identifier of the film (number), this is the key
<i>title</i>	The title of the film (text)
<i>pyear</i>	The year of production of the film (number)
<i>length</i>	The length of the film given in minutes (number)

*roles* (*id*, *actor*, *role*)

<i>id</i>	The identifier of the role (number), this is the key
<i>actor</i>	The name of the actor playing the given role (text) If an actor played different roles in different films, then his/her name appears several times.
	The data table does not contain different actors with the same name.
<i>role</i>	The name, description of the role played by the given actor (text) One actor did not play multiple roles in a film.

*cast* (*id*, *filmid*, *roleid*)

<i>id</i>	Identifier (number), this is the key
<i>filmid</i>	The identifier of the film (number)
<i>roleid</i>	The identifier of the role of the given film (number)



When solving the following exercises, save the queries with the name given in brackets. Pay attention to displaying exactly the required fields in the solution.

2. Some actors played themselves in the film, that is, the name of the actor and the name of the role are the same. List these actors using a query. Display only the name of the actor. (*2themselves*)
3. How many hours would it take to watch all Csöpi films without a break? Determine the answer using a query. (*3hours*)
4. Display the names of the actors and their roles in film “*Hamis a baba*” using a query. Do not display any other fields in the query. (*4hamis*)

5. Who are the actors who played several roles in the Csöpi films? Display the names of the actors and the number of roles they played using a query; sort the results into descending order by the number of roles. Display the name of each actor only once. (*5severalroles*)
6. Some actors played in all seven Csöpi films and always played the same role. Give the names of these actors and the role played by them using a query. (*6always*)

15 marks

## 5. Delivery

Objects arriving after each other should be boxed and delivered. One box can hold at most 20 kg. The mass of each object is an integer between 1 and 20 (inclusive). The objects are boxed in the following way:

- the objects are boxed in the order they arrive, after each other;
- if the object fits into a box based on the mass limit, then it is put into the box;
- if the current object does not fit into the box, then the box is closed and a new box is started.

The number of objects is 15 and their masses are as follows:

16, 8, 9, 4, 3, 2, 4, 7, 7, 12, 3, 5, 4, 3, 2

Create a program that answers the questions about the 15 arriving objects in accordance with the rules given above. Pay attention to the program giving the correct result even if the mass values are changed in the program.

Save the source code of the program as *delivery*. When writing the program, you do not have to check the number and the mass of the objects.

In the case of exercises that require displaying information on the screen, displaying without accents is accepted. Display the exercise number with contents similar to the example (for example `Exercise 2.`), and refer to the information being displayed.

1. Store the 15 numbers given in the source of the program using a suitable data structure. The 15 numbers are given in file *masses.txt*, it can be copied into the program code from there.
2. Determine and display the total mass based on the masses of the objects according to the example.
3. Determine the number of boxes required and the masses of these boxes. Display the results according to the example.

### Example for textual output:

Exercise 2.

The total mass of the objects is 89 kg

Exercise 3.

The mass of the contents of the boxes (kg): 16 17 20 19 17

Number of boxes required: 5

15 marks

## Sources:

The base texts of the exercise sheet were created by amending (abridging, grammatically simplifying) the original source texts, using their data, but keeping the integrity of the original text and data. The sources of the original texts, data and images are:

### 1. Death cap

[http://dka.oszk.hu/115000/115094/1410161636\\_nagykep.jpg](http://dka.oszk.hu/115000/115094/1410161636_nagykep.jpg) Last access: 20.10.2022  
[https://hu.wikipedia.org/wiki/Gyilkos\\_gal%C3%B3ca](https://hu.wikipedia.org/wiki/Gyilkos_gal%C3%B3ca) Last access: 20.10.2022  
<https://gombanet.hu/mgomba> Last access: 20.10.2022

### 2. James Webb Space Telescope

<https://webbtelescope.org/contents/media/images/2022/033/01G70BGTSYBHS69T7K3N3ASSEB?news=true> Last access: 10.10. 2022  
[https://upload.wikimedia.org/wikipedia/commons/4/47/James\\_Webb\\_Space\\_Telescope\\_2009\\_top.jpg](https://upload.wikimedia.org/wikipedia/commons/4/47/James_Webb_Space_Telescope_2009_top.jpg) Last access: 10.10. 2022  
<https://pixabay.com/illustrations/space-stars-star-wars-darck-black-1164579/> Last access: 10.10. 2022  
<https://webbtelescope.org/contents/media/images/01FDT2PKFSFKE5VA206WR2Z7ME?page=6&filterUUID=91dfa083-c258-4f9f-bef1-8f40c26f4c97> Last access: 10.10. 2022

### 3. TCR8

<https://www.transcontinental.cc/> Last access: 20.10. 2022

### 4. Csöpi films

[https://hu.wikipedia.org/wiki/Az\\_elvárásolt\\_dollár](https://hu.wikipedia.org/wiki/Az_elvárásolt_dollár) Last access: 16.08.2022  
[https://hu.wikipedia.org/wiki/A\\_Pogány\\_Madonna](https://hu.wikipedia.org/wiki/A_Pogány_Madonna) Last access: 16.08.2022  
[https://hu.wikipedia.org/wiki/Hamis\\_a\\_baba](https://hu.wikipedia.org/wiki/Hamis_a_baba) Last access: 16.08.2022  
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[https://hu.wikipedia.org/wiki/Zsaruvér\\_és\\_Csigavér\\_I.:\\_A\\_királyné\\_nyakéke](https://hu.wikipedia.org/wiki/Zsaruvér_és_Csigavér_I.:_A_királyné_nyakéke) Last access: 16.08.2022  
[https://hu.wikipedia.org/wiki/Zsaruvér\\_és\\_Csigavér\\_II.:\\_Több\\_tonna\\_kámfor](https://hu.wikipedia.org/wiki/Zsaruvér_és_Csigavér_II.:_Több_tonna_kámfor) Last access: 16.08.2022  
[https://hu.wikipedia.org/wiki/Zsaruvér\\_és\\_Csigavér\\_III.:\\_A\\_szerencse\\_fia](https://hu.wikipedia.org/wiki/Zsaruvér_és_Csigavér_III.:_A_szerencse_fia) Last access: 16.08.2022

	mark	
	maximum	achieved
Word processing <b>1. Death cap</b>	25	
Visual elements <b>2. James Webb Space Telescope</b>	20	
Spreadsheet processing <b>3. TCR8</b>	25	
Database management <b>4. Csöpi films</b>	15	
Algorithmisation and programming <b>5. Delivery</b>	15	
<b>Mark of the practical exam part</b>	<b>100</b>	

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date

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examiner

	pontszáma <b>egész</b> <b>sámra</b> kerekítve	
	elért	programba beírt
Szövegszerkesztés		
Vizuális elemek		
Táblázatkezelés		
Adatbázis-kezelés		
Algoritmizálás és programozás		

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