

		Matriculation no.:	
		Seat no.:	
Faculty AI		Points:	Grade:
Course:	(Intro. to) Informatics	Allowed resources:	none
Degree program:	Masters LSI	Duration:	45 min.
Examiner:	Gökçe Aydos	Date:	25.01.2021
Semester:	WS 20/21	Time:	10:00
Exam type:	schr. P. 45 Min	# pages excl. cover	2

- Write your matriculation number and your seat number on every page
- The number of points should correspond the max. number of minutes that you should spend for this problem, e.g, 2 points \approx 2 minutes
- Littler answer box size means less words expected. Be succinct.

This exam has 7 questions, for a total of 20 points and 0 bonus points.

Page	Points	Bonus Points	Score
1	11	0	
2	9	0	
Total:	20	0	

1. (1 point) Rank the following data units from the lowest (1) to the highest (5) amount:
___ B ___ kB ___ kiB ___ TiB ___ MB
2. (1 point) Which of the following are/include digital computers?
 - A. abacus
 - B. printer
 - C. smartwatch
 - D. car
3. (a) (1 point) You open the case of a tower PC and look inside. What are five examples of hardware devices that you can see?

- (b) (5 points) Explain the purpose of every of these five hardware devices in one sentence each

4. (a)
 - i. (1 point) 2 TB = _____ MB
 - ii. (1 point) 2048 byte = _____ KiB
 - iii. (1 point) 1 byte = _____ bit
- (b) What are the corresponding numbers in the given base?

- i. (1 point) $100_2 = \text{_____}_{16}$
- ii. (1 point) $10_{10} = \text{_____}_2$
- iii. (1 point) $A2_{16} = \text{_____}_{10}$

5. (3 points) Imagine you are working with a DNA sequencer. The sequencer gives you the following output:

GCCT ACTG GGAC TGCA AGGG TAAC

You want to store this data as compact as possible. What would be the minimum size of the file you generate? Please show your steps.

6. (1 point) Which of the following operating systems is/are not Unix-like?
- A. Windows
 - B. GNU/Linux
 - C. macOS
7. (2 points) On a webpage the layout, colors and fonts are typically described by _____ files. The content of the webpage is described by _____ files. If the web programmer wants to change the structure of the document according to the user behavior, he can use _____.