

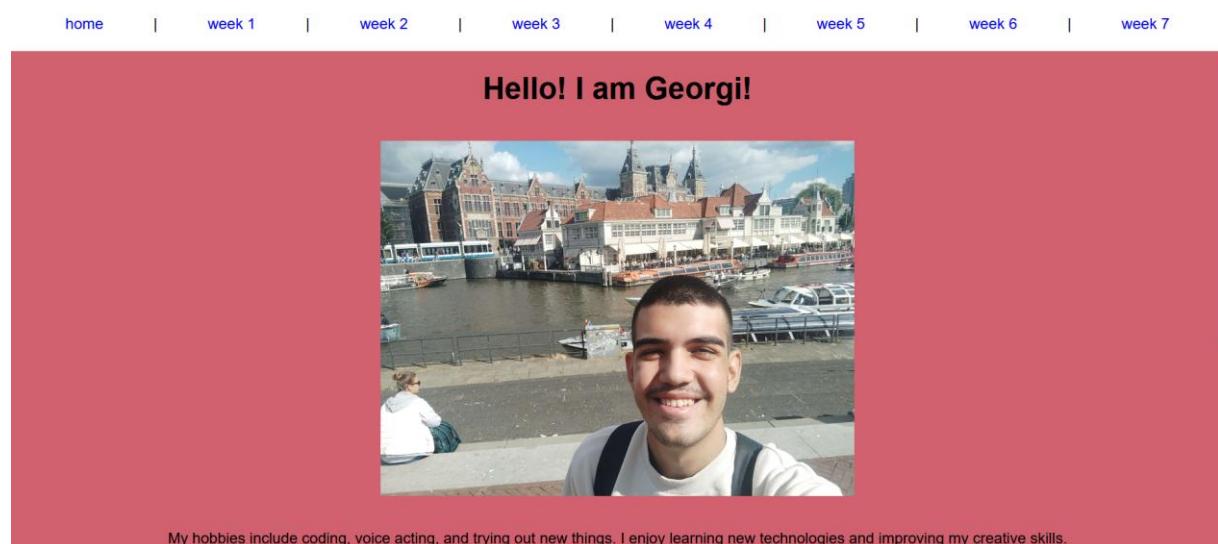
Week 7 – Host your website on GitHub

Student number: 579444

Domain name (URL) of your website on GitHub:

gtzhekov20.github.io

Relevant screenshots + motivation:



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Week 1 – Bits & Bytes

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Assignment 1.1: Bits & Bytes intro

What are Bits & Bytes?

Bit is the smallest unit of data in a computer; it can represent only two values – 0 and 1 (or false and true). Byte is a unit of data that consists of 8 bits. It's the standard unit used to represent a character, because it can represent 256 different values.

What is a nibble?

Nibble is unit of data that consists of 4 bits – half a byte.

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Week 2 – Logic

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Assignment 2.1: Parking lot

Which gates do you need?

We need 2 AND logic gates to check if there is a free parking space.

Complete this table

Parking lot 1	Parking lot 2	Parking lot 3	Result (full)
0	0	0	0
0	0	1	0
0	1	0	0
1	0	0	0
0	1	1	0

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Week 3 – Hardware

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Assignment 3.1: Examine your phone

What processor is in your phone?

Dimensity 8400-Ultra Octa-core Max 3,25GHz

To which architecture family does this processor belong? In other words, which Instruction Set Architecture (ISA) is used?

ARMv9.2

How much RAM is in it?

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Week 4 – Software

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Assignment 4.1: ARM assembly

Screenshot of working assembly code of factorial calculation:

The screenshot shows a debugger interface with assembly code and register values. The assembly code includes instructions like MOV, LDR, STR, MUL, CMP, BEQ, and LSL. The register values show the state of the processor during execution, with R0 containing the result and R1 containing the current value being multiplied.

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Week 5 – Operating Systems

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Assignment 5.1: Unix-like

a) Find out what the difference is between UNIX and unix-like operating systems?

UNIX is a certified family of operating systems, while unix-like operating systems are systems that mimic the design and behavior, but they lack the certification and are mostly open-source and independent.

b) Study the image above named UNIX timeline. Find out who Ken Thompson, Dennis Ritchie, Bill Joy, Richard Stallman, and Linus Torvalds are and what they have contributed to the development of UNIX or unix-like systems and to IT in general. **TIP!** English-language sources often contain more detailed information about these individuals.

Ken Thompson and Dennis Ritchie are the inventors of the UNIX OS family, Ken Thompson created the programming language B, which later served as a base for the programming

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Week 6 – Networking

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Assignment 6.1: Working from home

Screenshot installation openssh-server:

```
ubuntu@ubuntu:~$ sudo apt install openssh-server
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following additional packages will be installed:
  ncurses-term openssh-client openssh-sftp-server ssh-import-id
Suggested packages:
  keychain libpam-ssh monkeysphere ssh-askpass molly-guard
The following NEW packages will be installed:
  ncurses-term openssh-server openssh-sftp-server ssh-import-id
The following packages will be upgraded:
  openssh-client
```

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