

A+ will be down for a version upgrade on Tuesday 03.01.2023 at 9-12.

This course has already ended.

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Example Exam1

In the exam, there are five questions on the following topics:

1. **Arrays in C:** You are required to implement a single function that performs the specified operation.
2. **Strings in C:** You are required to implement a single function that performs the specified string operation.
3. **Bit operations in C:** You are required to implement a single function that performs the specified bit operations.
4. **Fix code:** You are required to fix errors in the provided code.
5. **Program:** You are required to write a program that has the specified functionality.

Getting Started

1. Each question is shown in its exercise box. **By the end of the description, you can find a link to download Visual Studio Code workspace folder along with the source code template for each question.**

- **Note that you need to download different files for each question!**

2. You can download the ZIP file as you did with the exercise modules.

- If you are using Windows Subsystem for Linux (WSL), Linux or MacOS based system, you can use `wget` tool. `download url` can be copied by right clicking the download link and selecting `copy link`.

```
wget --no-check-certificate <download url>
```

- After downloading the template, you need to unzip its content. If you are using Windows Subsystem for Linux (WSL), Linux or MacOS based system, you can use `unzip` tool.
- The zip file names end with a number. These are used for personalization of the exam, and does not signify anything on your side.

3. **You can open the Visual Studio Code workspace.**

- Navigate to the directory (folder) you extracted the template

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- If you are using command-line, enter the following command:

```
code exam.code-workspace
```

- Otherwise, you can do the same by clicking **File - Open Workspace ...**

4. Read the comments in the template.

Testing


- The provided workspace has the following **Run Tasks** pre-configured. You can access them by clicking **Terminal - Run Task...**
 - **Build**: builds the source file `main.c` and creates executable `main.out`.
 - **Clean**: deletes the executable file `main.out`.
 - **Valgrind**: runs `valgrind` with `main.out`.
- The provided workspace has a launch configuration pre-configured so that you can use the debugger right away.
- The template files **do not** have any tests for your implementations. You are responsible for creating the tests for the first 3 questions if you need validation.
 - Your test code will not be evaluated (except question 5: **Program**).

Submission

- You can submit your solutions as you did in the exercises.
- **You should use the correct submission box of the solution.**
- *Your file should have a valid `main` function.*
- The number of submissions is not limited, but it is faster and easier to develop and test on your local environment.
- After submission, you can see `compiler` and `valgrind` outputs below the question description.
- If there are `compiler` warnings or memory leaks detected by `valgrind`, you will see some penalties. Their importance depends on the question. In some questions, `valgrind` errors are ignored, and in some `compiler` warnings originating from `main` or `test` functions are ignored.

Evaluation

- We will manually grade your solutions.
- You will be graded based on your last submissions.
- Your coding style might affect your grade as it is in the programming task. Therefore, pay attention when naming your structures, variables and functions.

 The deadline for the assignment has passed (Tuesday, 31 August 2021, 23:59).

You cannot submit this assignment

Strings in C

The deadline for the assignment has passed (Tuesday, 31 August 2021, 23:59). Create `mystrcat(char *dest, const char *src)` function and a `main` function that tests its functionality. The function concatenates string `src` after string `dest`. The function does not allocate memory, but it assumes that the calling function arranges the memory

somehow (as with the original `strcat` function). The function returns pointer to the beginning of the string. In this task you must not use the `strcat` function that is defined in `string.h` header.


You can download the template ZIP file from here.

(https://gitmanager.cs.aalto.fi/static/elec_a7100_2021summer/_downloads/example_q1.zip)

 **main.c**

Choose File No file chosen

Submit

 The deadline for the assignment has passed (Tuesday, 31 August 2021, 23:59).

You cannot submit this assignment

Arrays in C

The deadline for the assignment has passed (Tuesday, 31 August 2021, 23:59). Create unsigned int `pickmax(unsigned int *numbers)` function and a main function that tests its functionality. The function processes table `numbers` that contains unsigned integers. The table ends with number `0`. The function should return *the largest integer in the table*.

Show anyway


You can download the template ZIP file from here.

(https://gitmanager.cs.aalto.fi/static/elec_a7100_2021summer/_downloads/example_q2.zip)

 **main.c**

Choose File No file chosen

Submit

 The deadline for the assignment has passed (Tuesday, 31 August 2021, 23:59).

You cannot submit this assignment

Bit operations in C

The deadline for the assignment has passed (Tuesday, 31 August 2021, 23:59). Create void `set_bit(unsigned char *buffer, unsigned int n, int bit)` function and a main function that tests its functionality. The function goes through `n` bytes starting from address `buffer` and sets bit number `bit` in each of the bytes. The most significant bit is numbered `7`, and the least significant bit is numbered `0`.

Show anyway

You can download the template ZIP file from here.

(https://gitmanager.cs.aalto.fi/static/elec_a7100_2021summer/_downloads/example_q3.zip)

 **main.c**

Choose File No file chosen

Submit

Loading assignment...

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