

LABWORK 1

For a particular illness a patient should take 3 drugs every day: Drug A, drug B and drug C. According to his age and his gender the following table describes the necessary quantity.

Write down a program that allows to calculate and print the quantities of the three drugs if a user enters his age and his gender.

| Drug | Male ('M') | Female ('F') |
|------|---------------|--------------|
| A | 37.5 mg | 10 mg |
| B | 4A mg | 0.5A mg |
| C | 4K - 0.25B mg | 2K - B mg |

Figure 1: How to calculate drug quantity

$K = \begin{cases} A / 2 & \text{for age} < 18, \\ A & \text{for } 18 \leq \text{age} < 40, \\ 2A & \text{for } 40 \leq \text{age} < 65, \\ 4A & \text{for age} \geq 65 \end{cases}$

Write 3 functions and a main function. Do not use any library other than `stdio`.

Function 1: (15 pts)

- **Function name:** CalculateA
- **Function parameter:** 1 `char` parameter named "gender"
- **Return type:** `double`
- See *Figure 1* to figure out what it does.

Function 2: (15 pts)

- **Function name:** CalculateB
- **Function parameter:** 1 `char` parameter named "gender"
- **Return type:** `double`
- See *Figure 1* to figure out what it does.

Function 3: (50 pts)

- **Function name:** CalculateC
- **Function parameter:** 1 `int` parameter named “age” and 1 `char` parameter named “gender”
- **Return type:** `double`
- See *Figure 1* to figure out what it does.

The main function:

- Ask 2 values from the user: *age* (`int`) and *gender* (`char`). (5 pts)
- Call the functions to calculate the quantity of each drug the patient should take depending on his age and gender. (10 pts)
- Print the quantity of each drug as in the examples below. (5 pts)
- Do the `printf` and `scanf` operations **only** in the main function.

Examples:

```

dergonul@DESKTOP-3J2QH5K:~$ ./a.out
10 M
37.500000 150.000000 37.500000
dergonul@DESKTOP-3J2QH5K:~$ ./a.out
10 F
10.000000 5.000000 5.000000
dergonul@DESKTOP-3J2QH5K:~$ ./a.out
30 M
37.500000 150.000000 112.500000
dergonul@DESKTOP-3J2QH5K:~$ ./a.out
30 F
10.000000 5.000000 15.000000
dergonul@DESKTOP-3J2QH5K:~$ ./a.out
50 M
37.500000 150.000000 262.500000
dergonul@DESKTOP-3J2QH5K:~$ ./a.out
50 F
10.000000 5.000000 35.000000
dergonul@DESKTOP-3J2QH5K:~$ ./a.out
70 M
37.500000 150.000000 562.500000
dergonul@DESKTOP-3J2QH5K:~$ ./a.out
70 F
10.000000 5.000000 75.000000

```

Name of your file should be in the format: labwork1_name_surname.c

- **Name:** is your own name
- **Surname:** is your own surname
- **Example:** labwork1_busra_oktar.c
- If you do not know how to create a `.c` file, please look at “How to run your code?” file.