

Edit, compile and run programs in C language

For each of the following exercises, perform the following actions:

- 1) create a file with a suitable name ("name.c") and write the given program in it,
- 2) describe, step by step, what you think the written program does,
- 3) compile and run the implemented program.

1.

```
#include <stdio.h>

void main()
{
    printf("HELLO.");
    printf("HELLO . ");
    printf("HELLO .\n");
    printf("HELLO STUDENTS.\n");
}
```

2.

```
#include <stdio.h>

void main()
{
    int old;
    printf("HELLO STUDENTS.\n");
    printf("How old are you (e.g. 18)?\n");
    scanf("%d", &old);
    printf("You are %d years old.\n", old);
}
```

3.

```
#include <stdio.h>

void main()
{
    float tall;
    int weight;
    printf("HELLO!\n");
    printf("How tall are you (a float number for meters - e.g. 1.78)?\n");
    scanf("%f", &tall);
    printf("What is your weight (an integer number for kg - e.g. 68)?\n");
    scanf("%d", &weight);
    printf("You are %f m tall and weigh %d kg.\n", tall, weight);
}
```

4.

```
#include <stdio.h>

void main()
{
    const float pi = 3.141592;
    int radius;
    float perimeter, area;
    printf("Program to calculate the perimeter and area of a circle.\n");
    printf("What is the length of the radius of the circle (in cm - e.g. 65)?\n");
    scanf("%d", &radius);
    perimeter = 2 * pi * radius;
    area = pi * radius * radius;
    printf("Perimeter of the circle with radius %d cm = %f cm.\n", radius, perimeter);
    printf("Area of the radius circle %d cm = %f cm2.\n", radius, area);
}
```

5.

```
#include <stdio.h>

void main()
{
    float x;
    printf("Enter a float number: ");
    scanf("%f", &x);
    if (x >= 0)
    {
        printf("%f => positive number or null number.\n", x);
    }
    else
    {
        printf("%f => negative number.\n", x);
    }
}
```

6.

```
#include <stdio.h>

void main()
{
    int a, b;
    printf("Enter an integer number: ");
    scanf("%d", &a);
    printf("Enter another integer number: ");
    scanf("%d", &b);
    if (a == b) {
        printf("%d equal to %d.\n", a, b);
    }
    else {
        if (a > b) {
            printf("%d greater than %d.\n", a, b);
        }
        else {
            printf("%d less than %d.\n", a, b);
        }
    }
}
```

7.

```
#include <stdio.h>

void main()
{
    float x;
    printf("Enter a float number: ");
    scanf("%f", &x);
    while (x >= 0)
    {
        printf(" Enter another float number: ");
        scanf("%f", &x);
    }
}
```

8.

```
#include <stdio.h>

void main()
{
    int a;
    do{
        printf("Enter an integer number: ");
        scanf("%d", &a);
    }while (a >= 10 && a <= 50);
    printf("Success: the number %d does not belong to set D.\n", a);
}
```

9.

```
#include <stdio.h>

void main()
{
    int a;
    printf("Enter an integer number: ");
    scanf("%d", &a);
    while (a >= 10 && a <= 50)
    {
        printf("Enter an integer number: ");
        scanf("%d", &a);
    };
    printf("Success: the number %d does not belong to set D.\n", a);
}
```

10.

```
#include <stdio.h>

void main()
{
    int a;
    printf("Enter an integer number: ");
    scanf("%d", &a);
    while (a < 10 || a > 50)
    {
        printf("Enter an integer number: ");
        scanf("%d", &a);
    };
    printf("Success: the number %d belong to set D.\n", a);
}
```