



Level: 1st year of computer science
Course: ADS1

series TD/TP N° : 03

Academic year:2025/2026
Chapter 2 : I/O

Exercise 1 : (TD)

Write an algorithm that reads the name and birth year of a person, as well as the current year. Then, it displays the age of that person.

Display example:

Name: Said

Year of birth: 2007

Current year: 2025

Hello Said, you are 18 years old.

Exercise 2: (TP)

Write a C program that converts a lowercase letter into an uppercase letter.

N. B. : the letters are ordered such that: 'A' < 'B' < ... < 'Z' < ... < 'a' < 'b' < ... < 'z'

Exercise 3: (TD/TP)

Write an algorithm and its C program to calculate the average of the ADS1 module.

Exercise 4: (TD/TP)

Write an algorithm and its C program that receives an angle in degrees, then displays this angle in grades and radians.

N. B. : $\text{rad} = \text{deg}^\circ \times \pi / 180$ $\text{gr} = \text{rad} \times 200 / \pi$

Exercise 5: (TP)

Write a C program that reads the time in seconds and then displays it in hours, minutes and seconds.

Exercise 6: (at home)

Write an algorithm and its C program to calculate the area and perimeter of a rectangle.

Exercise 7: (at home)

Create an algorithm and its C program to convert degrees Celsius to Fahrenheit.

N. B. : $^\circ\text{F} = \frac{9 \times ^\circ\text{C}}{5} + 32$

Exercise 8: (at home)

Write an algorithm that reads the length in centimeters and then displays it in yards (yd), feet (ft) and inches (in).

N. B. : yd= 91.44 cm ft= 30.48 cm in= 2.54cm

Exercise 9: (at home)

Here is the program in front.

Write (or copy) this program to your machine.

Run this program for a=8, then for a=33

What does this program do?

What happens if the value of "a" exceeds 64?

```
#include <stdio.h>
int main() {
    int a, b, c=0, p=1;
    printf("enter a nbr < 64\n");
    scanf("%d", &a);

    b=a%8;
    a/=8;
    c+=b*p;
    p*=10;

    b=a%8;
    a/=8;
    c+=b*p;
    p*=10;

    printf("%d", c);
    return 0;
}
```