Mila University Center
Institute of Mathematics and Computer Science
Department of Computer Science
1st Year LMD

DIRECTED WORK SERIES NO. 3 (THE FILES)

Module: Algorithmic and data structures 2 Academic year: 2024/2025

Exercise 1 :

Consider the following record type:

```
Type
Structure Student
Number: integer;
Last_name, First_name: string;
Average: real;
End Structure;
```

Let **T** be an array of **N** students (N <=100).
Write an algorithm allowing you to copy all the **admitted** students belonging to **T** into an **ADMIS file** of student type. A student is admitted if his average is greater than or equal to 10.

Exercise 2:

Consider the following record types:

Type structure Date Day, month, year: integer; End Structure;	Structure TDiscipline Discipline: string ; Faculty: string; End Structure;	Structure Student Last name, First name : string; Date_Birth : Date; Sector : TDiscipline ; End Structure;

Let **FStudent** be a file of students.

Write an algorithm that allows you to:

a) Fill the **FStudent** file.
b) Split the **FStudent** file into two files, F_MI (students from the "MI" faculty) and F_Others (students from other faculties).

Exercise 3:

Consider the following type:

```
Type
Structure Product
Code: Integer;
Designation: String;
Price: real;
End Structure;
```

Let **FProduct** be a product file.

Write a Function that checks if the elements of **FProduct** are sorted in ascending order of their Code.