

DIRECTED WORK SERIESNO. 4

Algorithms and data structures 2

Academic year: 2025 / 2026

Exercise 1

Write an algorithm that:

- Declares an integer variable x with initial value 10.
- Declares a pointer p that stores the address of x
- Prints:
 - value of x
 - address of x
 - value of p
 - value pointed by p

Exercise 2

Complete the following table:

A,B,C: integer; P1,P2: *integer;	A	B	C	P1	P2
A ← 1; B ← 2; C ← 3;	1	2	3	/	/
P1 ← &A;	1	2	3	@A	/
P2 ← &C;					
*P1 ← (*P2)+1;					
P1 ← P2;					
P2 ← &B;					
*P1 ← *P1-*P2;					
*P2 ← 1+*P2;					
A ← *P2**P1;					
P1 ← &A;					
*P2 ← *P2/*P1;					

Exercise 3

Write an algorithm that reads two *integers* and, with a procedure **Swap**, swaps these integers using pointers.

Exercise 4

Write a function **Max_array** that find the maximum value in an array using pointers.