












SW N°2 : CONDITIONL / SELECTION STATEMENT

Exercise 01 :

Answer with “true” or “false” to the following instructions and correct any errors:

1) if N ← S ; then 	2) if A > B 	3) if N1 = 0, N2 = 0 then 
4) if i ← i + 1 ; then 	5) if A:=10 et B := 20 then 	6) if mois est 'mars' then 
7) if nbr est Positif then 	8) if A <> B et C then 	9) if [N >0] et [N < 10] then 
10) if X > Y then 	11) if X >= 0 then 	

Exercise 02 : Write the algorithm that finds and displays the maximum and minimum of three entered integer values.

Exercise 03 : Write an algorithm that calculates and displays the absolute value of any integer read from keyboard.

Exercise 04 : Write the algorithm which allows you to enter a number then determine if it belongs to a given interval, knowing that the ends(limits) of the interval are fixed by the user.

Exercise 05 : Write the algorithm that allows you to enter the day, month and year of a date (the month given as a number), to determine if it is a valid date and then display it by transforming the number of the month into its name (for example March 3, 2012)

Note: use the “case / switch” statement for the last part.

Exercise 06 (Exam 2023-2024): The electricity bill is calculated by multiplying the unit generated by the cost per unit. We suppose that the rate of electricity bill is as followed:

- For 1 to 50 units – 30 DA/unit
- For 50 to 150 units – 35 DA /unit
- For 150 to 500 units – 40 DA /unit
- For 500 units and above – 50 DA /unit

1. Write an algorithm that calculate the cost of the electricity bill.

Example : if the generated units = 220; the cost = 50*30 + 100*35 + 70+40 = 7800.

Exercise 07 : (Exam 2013/2014) : Write an algorithm that asks for a date in the form of 3 integers (day, month number and year) and displays the season (ex: 02/12/2008; winter of 2008). (We will assume that the first day of the season is always the 21st)

Exercise 08 : Propose two variations an algorithm that asks the user for a child's age. Then, inform the user about the child's category as follows:

1. "Poussin" from 6 to 7 years old.
2. "Pupille" from 8 to 9 years old.
3. "Minime" from 10 to 11 years old.
4. "Cadet" for ages 12 and older.

Exercise 09 : (Exam 2017/2018) : In a company, the calculation of paid leave days is carried out as follows: if a person has joined the company for less than a year, they are entitled to two days of leave per month (at least 1 month), otherwise at least 28 days. If this person is an executive, if he is at least 35 years old, and if his seniority is greater than 3 years, he is granted 2 additional days. If he is an executive and if he is at least 45 years old and if his seniority is greater than 5 years, he is granted 4 additional days, in addition to the 2 granted for over 35 years.

1. Write an algorithm that calculates the number of days of leave from age expressed in years, seniority expressed in months and membership in executives (being an executive or not).

Exercise 10 : A year is "leap" (that contains 366 days) if it is a multiple of 4, except the years at the start of the century (which end in 00) which are not leap years unless they are divisible by 400.

Example: - 1980 and 1996 are leap years because they are divisible by 4.
 - 2000 is a leap year because it is divisible by 400.
 - 2100 and 3000 are not leap years because they are not divisible by 400.

Write an algorithm that allows you to determine whether a given positive integer is a leap year or not.

Exercise 11 : A bank is open from 8:00 to 12:00 and from 14:00 to 17:00 except Thursday afternoon and Friday all day.

1. Write an algorithm that asks the user to enter a day (weekday) and time (in hours) and displays the message "Your bank is open" if the bank is open, and "Sorry, your bank is closed" otherwise.
2. Update the previous algorithm to indicates when and at what time the user can return if the bank is closed.