Level :1st year of Mathematics **Academic year** :2023/2024
Module: **ASD1** **Chapter 2**: Variables

Solutions to Exercise Series N°: 02

Exercise N°1 :

1. For each identifier proposed, respond with valid or invalid

C_1 : ***valid***
Prix-achat : ***invalid (- not accepted)***
9a : ***invalid (start with a number)***
sum1 : ***valid***
max% : ***invalid (% not accepted)***
moy.student : ***invalid (.unaccepted character)***
poste 1 : ***invalid (the space unaccepted character)***
NNN : ***valid***
téta : ***invalid (é : inaccepted character)***
_2x : ***valid***
Char : ***invalid (reserve word for the character type)***

2. Give an appropriate variable name for the following information and suggest a type:

Number of students in the section →***NbrStd: integer***
the baccalaureate average →***bacAvrg : real***
the degree of an earthquake : → ***degEarthqk : real***
number of a wilaya → ***numWilaya : integer***
blood group → ***bloodGr : string***
ranking of a club → ***rank : integer***
severity of a burn → ***sevBurn : character***

Exercise N°2 :

A←8	***permitted***	A+1←A+3	***not permitted(var←value)***
X ←2.3	***permitted***	2X← NOT X	***not permitted(var←value)***
A←A DIV 2	***permitted***	A←X MOD 2	***not permitted(x real)***
A←X-	***not permitted***	A←L AND A	***permitted***
L←1	***permitted***	X←L*A	***permitted***

Exercise N°3 :

Alogor1	*a*	*B*	*Alogorithme 2*	*a*	*b*	*x*	*y*	*Alogorithme3*	*x*	*y*	*z*	*w*	*u*	*T*
a,b : integer	/	/	*a,b : integer*					*x,y : integer*	/	/	/	/	/	/
a←1	1	/	*x,y: real*	/	/	/	/	*z,w : real*	/	/	/	/	/	/
b←3	1	3	*x←2*	/	/	2	/	*u,t :boolean*	/	/	/	/	/	/
a←a-b	-2	3	*a←1*	1	/	2	/	*y←1*		1				
*b←a*b-1*	-2	-7	*y←a*x +3*	1	/	2	5	*u←false*					0	
a←b+4	-3	-7	*b← y-2*	1	3	2	5	*z←u+5*			5			
a←b+4	-3	-7	*a← a div 2 + b mod 3*	0	3	2	5	*t← 'x'>'Z'*						1
b←a+b	-3	-10	*x←a *y + b*x*	0	3	6	5	*u←y>3et z<1ou t*						
b←a+b	-3	-10						*w←not t et (x=y)*						

Exercise N°4 :

```
Alogrithm Circle_Calcul
Constant
    Pi=3.14
Variables
    Ray, DM, PR, SR : real
Begin
    Ray←10
    DM←2 * Ray
    PR← Pi * DM
    SR← Pi * Ray * Ray
    Write ("The circle of radius ",Ray, " has diameter", DM ",perimeter ", PR , "and surface", SR)
End
```

TP

Consider the following program:

1. syntactic errors

```
#include<stdoi.h>
int main()
{
 int n,u,d,c,s;
n=258;
u=n%10 ;
C=n /100 ;;
d=(n /10)%10 ;
s=u+c+d,
printf("resultat : %d\n",s);
print ("end of programm }");
)
```

correct program

```
#include<stdio.h>
int main()
{
 int n,u,d,c,s;
n=258;
u=n%10 ;
C=n /100 ;;
d=(n /10)%10 ;
s=u+c+d;
printf("resultat : %d\n",s);
printf ("end of programm }");
}
```

Initialize *n* to the value 739 and execute the program. :

result: 19

What does the program do?

The programme calculate the sum of digits of 3 digits

Modify the program to calculate the sum of digits of a composite integer of 4 digits.

```
#include<stdio.h>
int main()
{
 int n,u,d,c,s,t;
n=258;
u=n%10 ;
t=n /1000 ;
c= (n/100)%10;
d=(n /10)%10;
s=u+c+d+t;
printf("resultat : %d\n",s);
printf ("end of program ");
}
```