

#define T 1

#if T == 1

#elif T == 2

#elif T == 4

#else

#endif

TD 20200709

SYMBOL = DISPLAY 0 1.

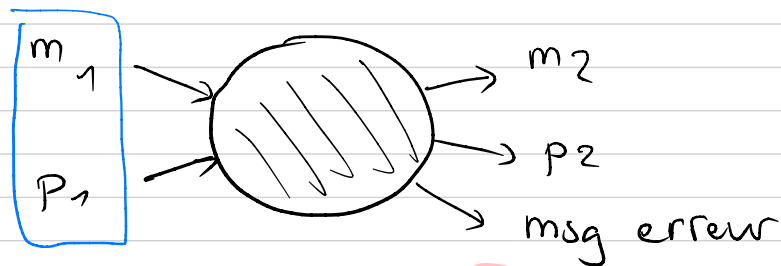
Code: $S = \sum_{k=1}^{10} k$

Si DISPLAY == 0

Si DISPLAY == 1

afficher S à la fin

afficher S à chaque
itération de k.



```
#define TEST_CASE 1 // 1 2 3 4...
```

```
double m1 = 0.;
double p1 = 0.;
```

```
#if TEST_CASE == 1
```

```
    m1 = 0.5;
```

```
    p1 = 3.;
```

```
#elif TEST_CASE == 2
```

```
    m1 = 0.;
```

```
    p1 = 1.;
```

```
#elif TEST_CASE == 3
```

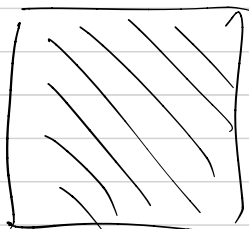
```
    m1 = 3.;
```

```
    p1 = 5.;
```

```
#else
```

```
    #error "BAD TEST_CASE VALUE"
```

```
#endif
```

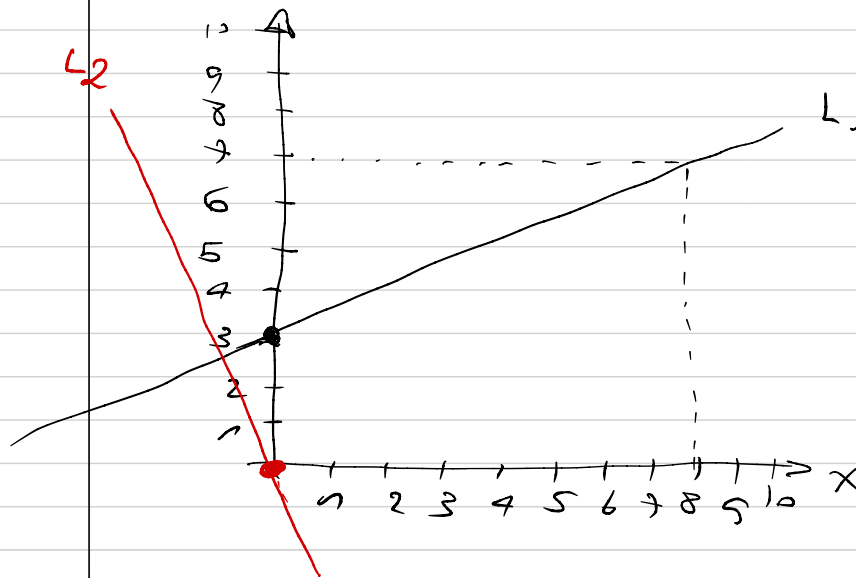


$p2 = 0$

$m2 = -1 m1$

affiche $m1$ et $p1$
affiche $m2$ et $p2$ et msg erreur

15h56



$$L_1 \quad y = m_1 x + p_1$$

$$p_1 = 3$$

$$m_1 = 0.5$$

$$L_2 \quad y = m_2 x + p_2$$

$$p_2 = 3$$

$$m_2 = -2 = -1/m_1$$

Triangle de Pascal.

$p =$	0	1	2	3	4	5	6	7	8	9	10	11	12
$n=0$	1												
1	1	1											
2	1	2	1										
3	1	3	3	1									
4	1	4	6	4	1								
5	1	5	10	10	5	1							
6	1	6	15	20	15	6	1						
7	1	7	21	35	35	21	7	1					
8	1	8	28	56	70	56	28	8	1				
9	1	9	36	84	126	126	84	36	9	1			
10	1	10	45	120	210	252	210	120	45	10	1		
11	1	11	55	165	330	462	462	330	165	55	11	1	
12	1	12	66	220	495	792	924	792	495	220	66	12	1

$e =$

$$t(l, c) = t(l-1, c-1) + t(l-1, c)$$

condition arr: $c == 0$ ou $l == c \rightarrow$ return 1.

Récurssive à utiliser avec parcimonie.

factorielle. $5! = 5 \times 4 \times 3 \times 2 \times 1$

$$5! = 5 \times 4!$$

$$5! = 5 \times 4 \times 3!$$

$$f(n) = n * f(n-1);$$

la fonction f s'appelle elle même
on dit qu'elle est récursive.

Toujours identifier la condition finale

Pon $f(n) =$ $n = 1$

condition de
fin de
récursivité:

```
uint32_t f ( uint32_t n ) {
    if (n == 1)
        return 1; // 1! = 1
    else
        return n * f(n-1);
}
```

main: $m = f(3)$

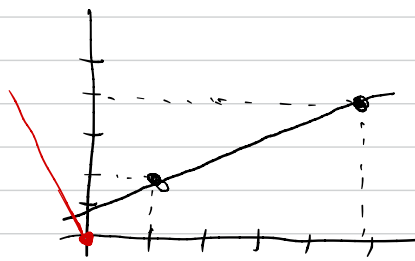
$f(3) = 3 * f(2)$
 $f(2) = 2 * f(1)$
 $f(1) \rightarrow 1$

Appel récursif

$S = 5 + 4 + 3 + 2 + 1$

$S(n) = n + S(n-1)$
 $\sum_{k=1}^5 k$

4 additions
3 appels de fonction



$$y = m_1 x + p_1$$

$$m_1 = 1/2$$

$$p_1 = 0$$

$$y = m_2 x + p_2$$

$$m_2 = -1/m_1 = -2$$

$$p_2 = 0$$