# Exercice 1

1) $\begin{cases} a_0 = 0 \\ a_m = 3 + a_{m-1} \end{cases}$          $a_m = a_0 + (m-0)r = 3m$

2) public static void f (int m){
     if (m == 0) return 0;

      return 3 + f( m-1);
   }

4) public static void f(int m){
     int r = 0;
     for (int i = 0; i < m; i++){
         r += 3;
     }
     return r;
   }

# Exercice 2

1) H(123) ⟶      H(1)
                 H(12)
                 H(123)

2) Elle affiche le nombre passé en paramètres

   Non pas terminale récursive : dernière instruction
                                est d'afficher qqch

3)

# Exercice 3

1) 
```
public static void fibo (int m){
    if(m =< 1) return 1;
    return fibo(m-1) + fibo (m-2);
}
```

2)
$$f(0) \to 1$$
$$f(1) \to 1$$
$$f(2) \to 2 = 1+1$$
$$f(3) \to 3 = 2+1$$
$$f(4) \to 5 = 2+3$$

$\left. \begin{array}{c} \\ \\ \end{array} \right\}$ 3 additions

3) m-1 additions
$$f(0) \to 0$$
$$f(1) \to 0$$
$$f(2) \to 1$$
$$f(3) \to 2$$

4)
```
public static void f( int m){
    int a = 1;
    int b = 1;
    int r = 0;
    for (int i=2; i<= m; i++){
        r = a + b;
        b = a;
        a = r;
    }
    return r;
}
```
↳ 3 additions pour $f(4)$
   m-1 additions pour $f(m)$

5)

5) main: fiboTerm (m, 0, 1)
```
public static void fiboTerm (m, a, b){
    if( m ==0) return a;
    if (m == 1) return b;

    return fiboTerm (m-1, b, a+b);
}
```