

IF121 - TP4 - CORRECTION

3 Novembre 2004

Exercice 1 : *Plus grand entier* *

```
static int max2 (int a, int b) {
    if (a > b) return a;
    else return b;
}
```

Exercice 2 : *Plus grand entier (bis)* *

```
static void max3 (int a, int b, int c) {
    int max;
    max = max2 (a, b);
    max = max2 (max, c);
    Deug.println ("Le maximum est " + max);
}
```

Exercice 3 : *Affichage des entiers de 0 à N* *

```
static void exercice3 () {
    int N = Deug.readInt();
    if (N > 0) {
        for (int i = 0 ; i <= N ; i++) Deug.println (i);
    }
}
```

Exercice 4 : *Sommes* **

```
static void exercice4 () {
    int N = Deug.readInt();
    int S1 = 0, S2 = 0;
    if (N > 0) {
        for (int i = 1 ; i <= N ; i++) {
            S1 += i;
            S2 += Math.pow (i, 3);
        }
        Deug.println("S1="+ S1 + ", S2=" + S2);
    }
}
```

Exercice 5 : Factorielle **

```
static int factorielle (int N) { // on suppose N > 0
    int A = 1;
    for (int i = 1 ; i <= N ; i++) {
        A *= i;
    }
    return A;
}
```

Exercice 6 : Maximum de N entiers **

```
static void exercice6 () {
    int N = Deug.readInt();
    if (N > 0) {
        int max = Deug.readInt ();
        for (int i = 1 ; i < N ; i++) {
            max = max2 (max, Deug.readInt());
        }
        Deug.println("Maximum = " + max);
    }
}
```

Exercice 7 : Fibonacci ***

```
static int fibonacci (int N) { // on suppose N > 0
    int fib1 = 1, fib2 = 1, tmp;
    for (int i = 2; i <= N ; i++) {
        tmp = fib1;
        fib1 = fib1 + fib2;
        fib2 = tmp;
    }
    return fib1;
}
```

Exercice 8 : Algorithme d'Euclide ***

```
static int pgcd (int a, int b) { // on suppose a > b
    int reste = 1;
    while (reste > 0) {
        reste = a%b;
        a = b;
        b = reste;
    }
    return a;
}
```