IMPORTANTE

Antes de empezar crea un proyecto con tu nombre y apellidos de la siguiente forma:

E2_Apellido1_Apellido2_Nombre_PSP

Asi, por ejemplo, un alumno que se llame Juan Garcia Perez deberá crear la siguiente carpeta:

E2_Garcia_Perez_Juan_PSP

No se corregirá ningún examen que no tenga esta nomenclatura.

Una vez finalizado el examen deberás comprimir el archivo en formato .zip o .rar y subir todo el proyecto.

1. The Pequod (7p)

The “Pequod” is a cargo that has arrived to the harbour of Valencia with 25 packages full of products ready to be sold in Valencia.

There is a crane responsible to unload the packages and place them on the ground. The space where the crane leaves the packages is restricted and allows a maximum of 7 packages at the same time. The crane takes a time between 1 and 2 seconds to prepare to move a box from the cargo to the ground. The time needed to move the box is irrelevant.

Each package is identified with a number and a weight which varies between 500 and 700 kg

On the ground there are 4 truck drivers ready to take the packages and place them into their truck. The time needed to place a package inside the truck may differ from 5 to 8 seconds. Each truck driver will take between 4 and 5 packages and will depart to the destination.

The program must show the amount of kg each truck driver has placed into their truck, the total amount of kg transported by all the drivers and the packages left.

2. Data analysis (3p)

The following function returns the value of the Fibonacci succession for a specified number.

```
public long fibonacci(long n) {
   if (n>1){
     return fibonacci(n-1) + fibonacci(n-2);
   }
   else if (n==1) {
      return 1;
   }
   else if (n==0){
      return 0;
   }
   else{
      System.out.println("You must enter a value > 0");
      return -1;
   }
}
```

It has been decided to calculate the value of the Fibonacci succession for the following values:

10, 15, 25, 30, 35, 40, 45, 47

Write two different versions of a program and compare the time of execution of the two programs.

1. One version has to be be a secuential program named **SecuentialFibonacci** which will calculate the sum of the Fibonacci succession for all the values specified **(1 p)**

2. The other version has to be a parallel program named **ParallelFibonacci** which will calculate the sum of the Fibonacci succession for all the values specified **(2 p)**

NOTE: The result of the program is 4218594358.

Assessment criteria

	NOVEL	APPRENTICE	ADVANCED	EXPERT	WEIGHT
	0	1	2	3	
Execution correctness	The code provided contains errors. The program does not run correctly	The program runs correctly but only SOME of the requirements of the assignment are solved	The program runs correctly but MOST of the requirements of the assignment are solved properly	The program runs correctly and meets ALL the requirements of the assignment	50%
Structure	The code is caotic and poorly structured	The code provided contains a poor structure (modularization is not used, the information is not hidden, ...).	The code contains an acceptable structure (attributes accessed only through methods, information is hidden in general, code reasonably well modularized).	The code is well structured (hidden information, modularization, ...)	30%
Insightful programming	The code contains classes, methods or variables not used	Some parts of the code are redundant or not necessary. No unused methods or variables appear in the code	The code does not contain redundant code. ALL the classes, methods or variables declared are used	Some functions or classes have been developed to avoid redundant code. ALL the classes, methods or variables declared are used	10%
Consistent style	The code does not show a consistent style	Some variable names or function names are not consistent	Almost every variable name or function name used is consistent and the code is properly indented	The style of the code is consistent	10%