Software Development

Q1:

You have been asked to write a software program that allows employers process tax payments due for their employees.

There are 5 employees in the company.

For each employee the system needs to store the employee's PPS number, e.g. **8765432AA**, the PPS should be entered from the console and should be stored in a list

The new tax system introduced in the budget means that there are a number of new tax bands and allowances for different types of employees.

The system must accept the gross pay earned by each employee and calculate their net pay according to the business rules below.

Type **A**: An employee earning less than or equal to €10000 pays no tax.
Type **B**: An employee earning more than €10000 and less than or equal to €20000 pays 30% tax on all income over €10000
Type **C**: An employee earning more than €20000 and less than or equal to €50000 pays 35% tax on all income over €10000
Type **D**: An employee earning more than €50000 is granted a tax-free allowance of €15000 and pays 40% tax on everything over that amount.

The net pay for each employee should be stored in a **parallel list.**
Display the PPs number, gross pay, tax paid and net pay for each employee.

Each employee's PPS and net pay details should be displayed at the end of the run. The amount of tax paid in each type,i.e., B,C,D, should also be calculated and displayed.
The employers wish to know the number of employees in each type (i.e. **A,B,C,D**), that information should be calculated and output at the end of the program

Output should be presented neatly.

Design your solution first and develop your solution incrementally, designing, implementing and testing as you go.

Sample Output - see next page

```
----------------------------------------
    Welcome to Employee Tax Calculator
Employee PPS:123456B
Enter employee   1's gross pay:€10000.00
----------------------------------------
123456B    has a gross pay of €10000.0
Paid tax of €0    and has net pay of €10000.0
----------------------------------------
Employee PPS:23456CG
Enter employee   2's gross pay:€15000.00
----------------------------------------
23456CG    has a gross pay of €15000.0
Paid tax of €1500.0 and has net pay of €13500.0
----------------------------------------
Employee PPS:34567YG
Enter employee   3's gross pay:€20000.00
----------------------------------------
34567YG    has a gross pay of €20000.0
Paid tax of €3000.0 and has net pay of €17000.0
----------------------------------------
Employee PPS:456789TR
Enter employee   4's gross pay:€50000.00
----------------------------------------
456789TR   has a gross pay of €50000.0
Paid tax of €14000.0 and has net pay of €36000.0
----------------------------------------
Employee PPS:568467EW
Enter employee   5's gross pay:€55000.00
----------------------------------------
568467EW   has a gross pay of €55000.0
Paid tax of €16000.0 and has net pay of €39000.0
----------------------------------------
Employee        Net Pay
123456B         10000.0
23456CG         13500.0
34567YG         17000.0
456789TR        36000.0
568467EW        39000.0
----------------------------------------
----------------------------------------
Tax Type        Tax Paid
B               4500.0
C               14000.0
D               16000.0
Tax Type        Number
A               1
B               2
C               1
D               1
```