



Resource Software Solution

Dart Language

Training Assignments

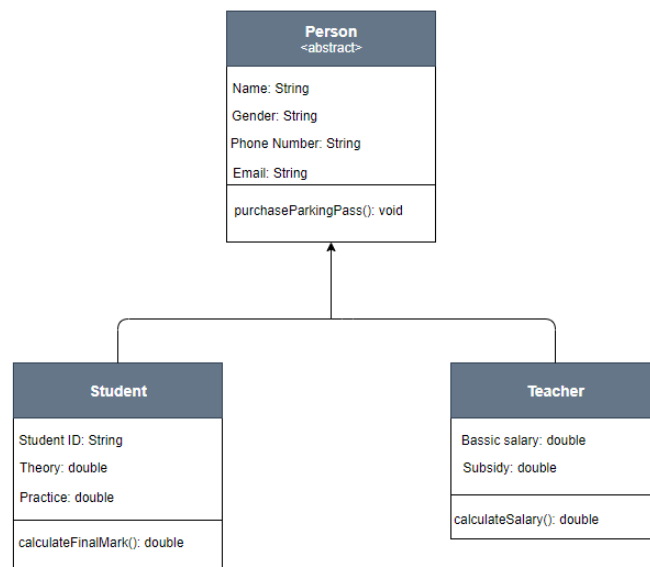
Advance OOP

Objectives:

- » Understand and practise with Classes, Objects, Inheritance.

Assignment Specifications:

For the class hierarchy is as follows, the trainee let's create the dart classes install this class diagram to be able to relationship between it.



- » The **Person** is an abstract superclass and has four fields: *fullName*, *gender*, *phone*, *email*. A constructor: that accept 4 arguments for attributes.
- » The **Student** is a concrete subclass of **Person** and adds 3 new fields: *studentId*, *theory*, *practice*. Provide **calculateFinalMark()** method to calculate the final mark of a student by an average of theory and practice.
- » The **Teacher** also is a concrete subclass of **Person** and adds two new fields: *basicSalary*, *subsidy*. Provide method **calculateSalary()** to calculate the teacher's salary by recipe:

$$\text{Salary} = \text{Basic salary} + \text{Subsidy}.$$

Business Rules:

- » *birthDate*: correct date format (dd/MM/yyyy).
- » *email*: correct email format.
- » *theory*, *practice*: in the range from 0 to 10.

Problem Descriptions:

Create a file named **personManage.dart** that contains the main method will be using the **Person** class and its subclasses allow selecting the functions as follows:

- Input data from the keyboard**: create an array of 10 **Person** of all types as mentioned above.
- Update student**: update student info by entering *studentId*.
- Display teacher**: displays information about teachers, who has a salary higher than 1000\$.
- Report**: display all students and their final mark, who qualify to pass the course (final mark ≥ 6).

--THE END--