

Systems Development: Object Oriented Programming

(H171 35)

Case Study: Payroll system using polymorphism

Step 3 – create concrete derived class HourlyEmployee

* HouryEmployee extends Employee base class
* Class HourlyEmployee additionally includes private instance variables to store the wage (wage) and the hours worked (hours), and *properties* for each which validate that wage is not negative and hours are a value between 0 and 168
* Class HourlyEmployee includes a constructor that takes the first name, last name, a social security number, an hourly wage and the numer of hours worked as arguments. Remember to call the base class (Employee) constructor and pass the first name, last name and social security number
* Class HourlyEmployee overrides methods Earning and ToString:
  + Earnings – overrides Employee’s abstract method Earnings to provide a concrete implementation that returns the HourlyEmployee’s earnings (see Case Study Overview for calculation)
  + ToString – overrides Employee’s version. Returns “hourly employee:” , followed by the base class Employee specific information (i.e. first name, last name and social security number) obtained by invoking the base class’s ToString, then the employee’s wage and hours worked.