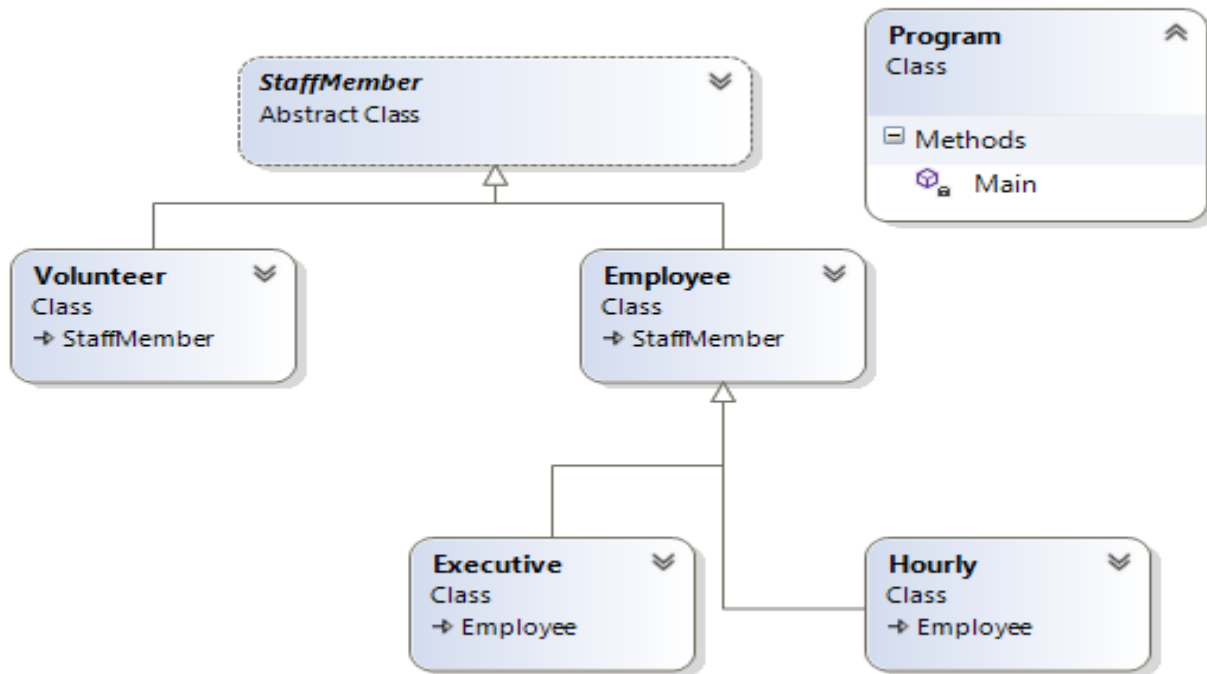


Programming Question: Payroll Application

Specification:

A firm has a staff of employees and needs to calculate pay for all of its employees. Below is a class hierarchy of the employees



Class Design: You may add any additional local variables and methods to implement the logic of your solution.

Class Name: StaffMember – Abstract Class

Private data members:

firstName	string	First name of the staff member
lastName	string	Last name of the staff member
emailAddress	string	Email address of the staff member

public methods:

StaffMember		Default constructor
StaffMember		Initialization constructor
ToString	override string	Displays the staff info
Pay	decimal	Abstract method. The purpose is to return pay of each staff member

Class Name: Volunteer –derived class from StaffMember**No private data members****public methods:**

Volunteer		Default constructor
Volunteer		Initialization constructor
ToString	override string	Displays base.ToString() and Indicates this is volunteer
Pay	override decimal	Returns 0 dollar amount

Class Name: Employee – derived class from StaffMember**Private data members:**

ssn	string	Social Security Number of the employee
payRate	decimal	Represents pay amount per pay period or hourly pay rate

public methods:

Employee		Default constructor
Employee		Initialization constructor
ToString	override string	Displays base.ToString() and adds SSN
Pay	override decimal	Returns pay amount per pay period

Class Name: Executive – derived class from Employee**Private data members:**

bonus	decimal	Bonus for executive employee per pay period
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public methods:

Executive		Default constructor
Executive		Initialization constructor
ToString	override string	Displays base.ToString() and indicates this is executive employee
CalculateBonus	void	Passes in one parameter decimal netProfit . If the netProfit is greater than the base pay, bonus=basePay * 0.03 (3% of basePay), otherwise bonus=netProfit * 0.01 (1% of the netProfit). If netProfit is <=0, there is no bonus.
Pay	override decimal	Return base pay amount plus the bonus per pay period

Class Name: Hourly – derived class from Employee**Private data members:**

hoursWorked	int	Hours worked per pay period
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public methods:

Hourly		Default constructor
Hourly		Initialization constructor
ToString	override string	Displays base.ToString() and indicates this is hourly employee
Pay	override decimal	If total hours are over 40, overtime pay will be calculated using hourly rate * 1.5 * overtime hours

Add necessary public properties and exception handling into your code. Test all the classes in your program class. Use List<StaffMember> to create a staff list and add an instance for each type of employee. Display the employee info plus their pays in your output.

When you complete this assignment, zip your solution folder and submit it in Eagle online for grading.