

Solutions for UML Class Diagrams

Chapter 9

Exercise 9.2:

Fan	
-speed: int	The speed of this fan (default 1).
-on: boolean	Indicates whether the fan is on (default false).
-radius: double	The radius of this fan (default 5).
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+Fan()	Constructs a fan with speed 1, fan off, radius 5.
+getSpeed(): int	Returns the speed of this fan.
+setSpeed(speed: int): void	Sets a new speed for this fan.
+isOn(): bool	Returns true if this fan is on.
+setOn(on: bool): void	Sets this fan on to true or false.
+getRadius(): double	Returns the radius of this fan.
+setRadius(radius: double): void	Sets a new radius for this fan.
+getColor(): string	Returns the color of this fan.
+setColor(color: string): void	Sets a new color for this fan.

Exercise 9.4:

MyPoint	
-x: double	x-coordinate of this point.
-y: double	y-coordinate of this point.
+MyPoint()	Constructs a Point object at (0, 0).
+MyPoint(x: double, y: double)	Constructs an object with specified x and y values.
+getX(): double	Returns x value in this object.
+getY(): double	Returns y value in this object.
+distance(secondPoint: MyPoint): double	Returns the distance from this point to another point.

Exercise 9.6:

QuadraticEquation	
-a: double -b: double -c: double	Three coefficients.
+QuadraticEquation(a: double, b: double, c: double)	Constructs a QuadraticEquation object with the specified coefficients.
+getDiscriminant():double	Returns the discriminant.
+getRoot1(): double	Returns root1.
+getRoot2(): double	Returns root2.

Chapter 10

Exercise 10.10:

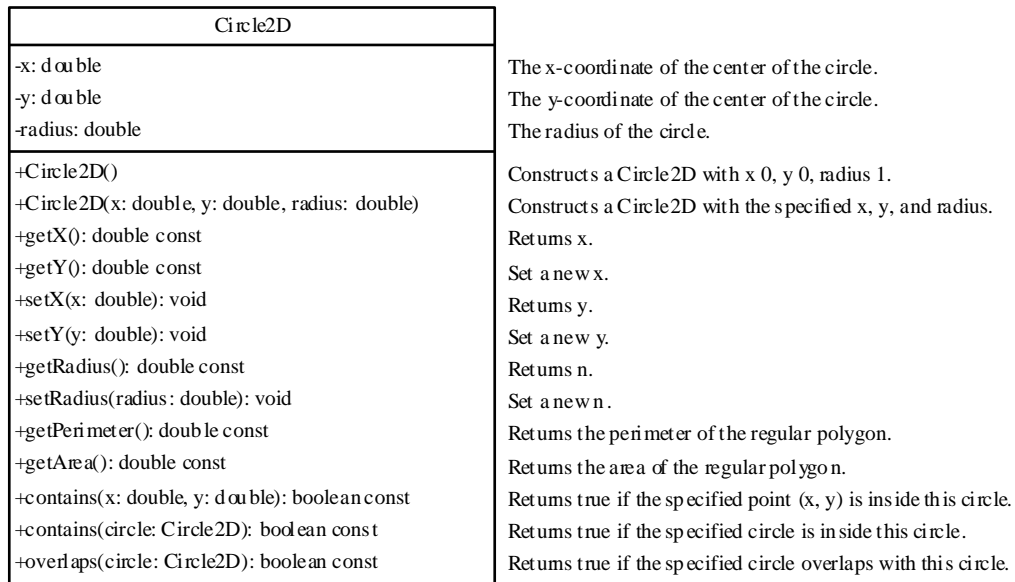
MyInteger	
-value: int	An int value for the object.
+MyInteger(value: int)	Constructs a MyInteger object with the specified int value.
+getValue(): int const	Returns the value in this object.
+isPrime(): bool const	Returns true if the value in this object is prime.
+isPrime(value: int): bool	Returns true if a specified int value is prime.
+isPrime(value: MyInteger): bool	Returns true if the value in a specified MyInteger object is prime.
+isEven(): bool const	Returns true if the value in this object is even.
+isEven(value: int): bool	Returns true if a specified int value is even.
+isEven(value: MyInteger): bool	Returns true if the value in a specified MyInteger object is even.
+isOdd(): bool const	Returns true if the value in this object is odd.
+isOdd(value: int): bool	Returns true if a specified int value is odd.
+isOdd(value: MyInteger): bool	Returns true if the value in a specified MyInteger object is odd.
+equals(anotherValue: int): bool const	Returns true if a specified int value is equal to the value in this object.
+equals(anotherValue: MyInteger): bool const	Returns true if the value in a specified MyInteger object is equal to the value in this object.
+parseInt(value: String): int	Returns the int value for the specified string.

Exercise 10.12:

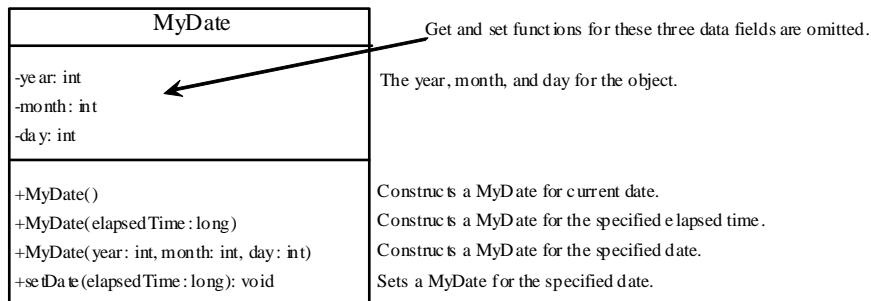
Stock	
-symbol: string	The symbol of this stock.
-name: string	The name of this stock.
-previousClosingPrice: double	The previous closing price of this stock.
-currentPrice: double	The current price of this stock.
+Stock(symbol: string, name: string)	Constructs a stock with a specified symbol and a name.
+getSymbol(): string const	Returns the symbol of this stock.
+getName(): string const	Returns the name of this stock.
+getPreviousClosingPrice(): double const	Returns the previous closing price of this stock.
+getCurrentPrice(): double const	Returns the current price of this stock.
+setPreviousClosingPrice(price: double): void	Sets the previous closing price of this stock.
+setCurrentPrice(price: double): void	Sets the current price of this stock.
+getChangePercent(): double const	Returns the percentage of change of this stock.

Chapter 11

Exercise 11.8: UML Class Diagram for Exercise 11.8

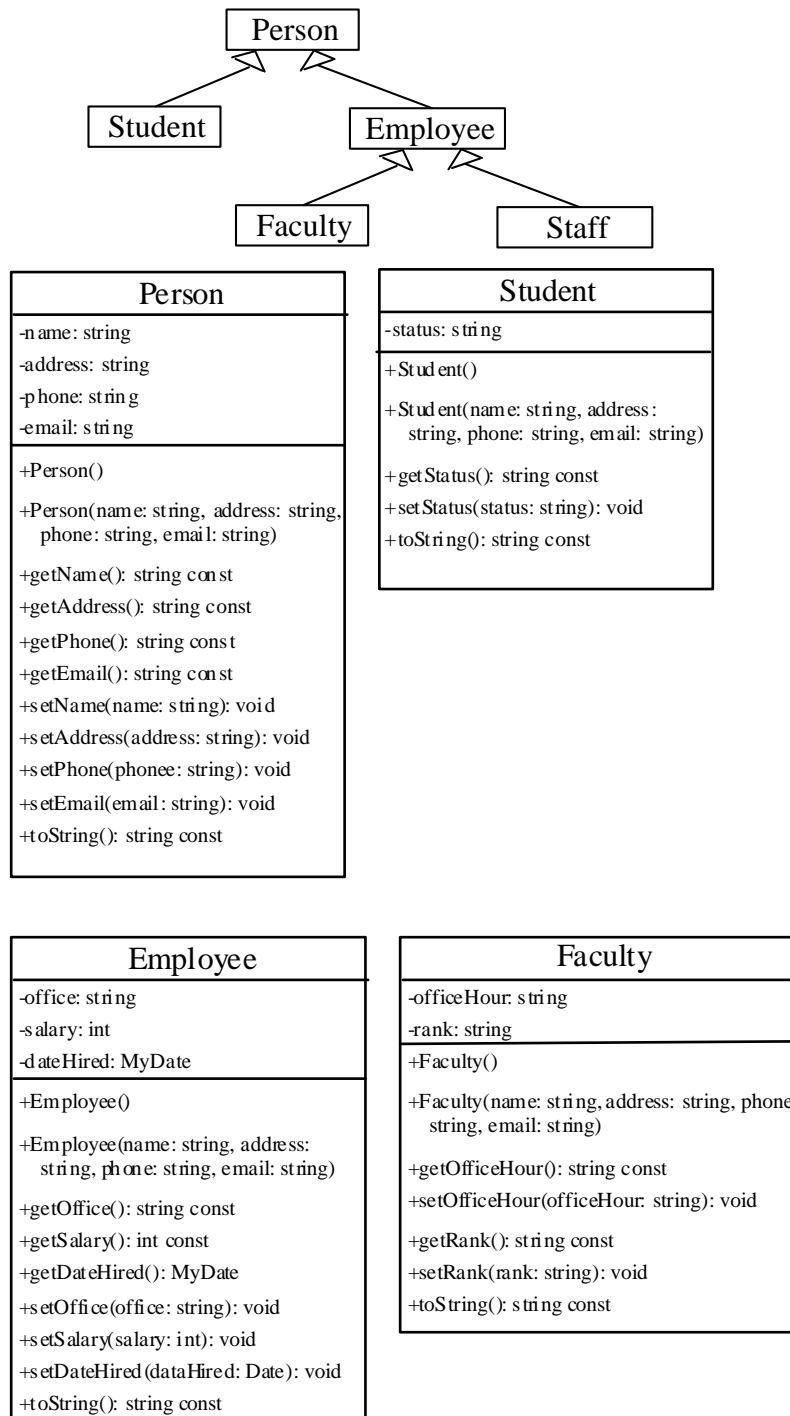


Exercise 11.12: UML Class Diagram for Exercise 11.12



Chapter 15

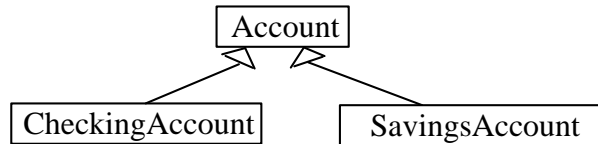
Exercise 15.2:



Staff
+title: string
+Staff() +Staff(name: string, address: string, phone: string, email: string) +getTitle(): string const +setTitle(title: string): void +toString(): string const

MyDate
-year: int -month: int -day: int
+Faculty() +getYear(): int const +getMonth(): int const +getDay(): int const +setYear(year: int): void +setMonth(month: int): void +setDay(day: int): void +toString(): string v

Exercise 15.4:



CheckingsAccount
-overdrawnLimit: int
+CheckingsAccount() +CheckingsAccount(id: int, balance: double, annualInterestRate: double) +getOverdrawnLimit(): int const +setOverdrawnLimit(overdrawLimit: int): void

SavingsAccount
+SavingsAccount() +SavingsAccount(id: int, balance: double, annualInterestRate: double)