

Solutions for UML Class Diagrams

Chapter 9

Exercise 9.2: UML Class Diagram for 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).
+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:
UML Class Diagram for 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:
UML Class Diagram for 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 10.18: UML Class Diagram for Exercise 10.18

MyInteger	
-value: int	An int value for the object.
+MyInteger(value: int)	Constructs a MyInteger object with the specified int value.
+getValue(): int	Returns the value in this object.
+isPrime(): bool	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	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	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	Returns true if a specified int value is equal to the value in this object.
+equals(anotherValue: MyInteger): bool	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.

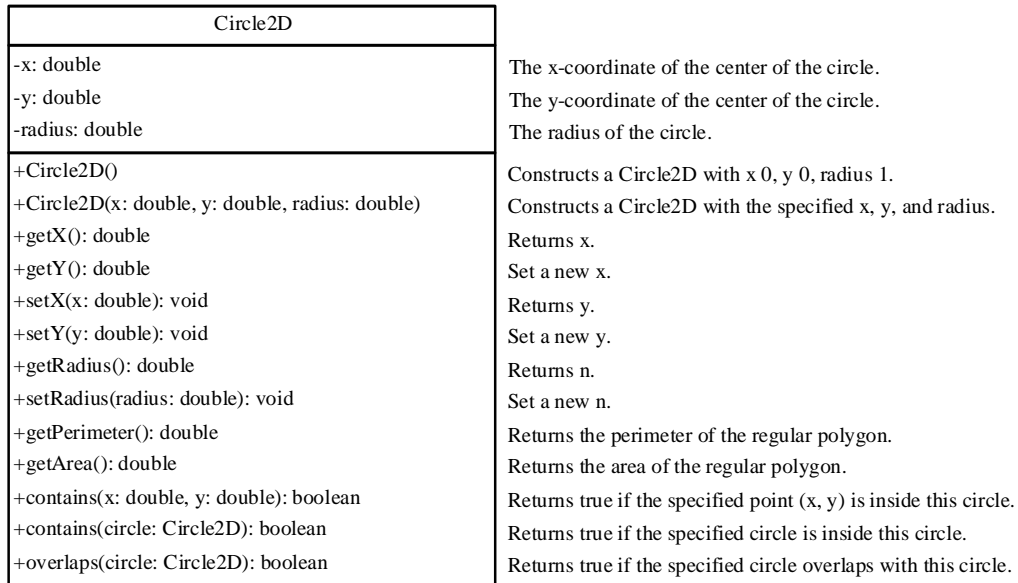
Exercise 10.20: UML Class Diagram for Exercise 10.20

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	Returns the symbol of this stock.
+getName(): string	Returns the name of this stock.
+getPreviousClosingPrice(): double	Returns the previous closing price of this stock.
+getCurrentPrice(): double	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.
+changePercent(): double	Returns the percentage of change of this stock.

Chapter 11

Exercise 11.8:

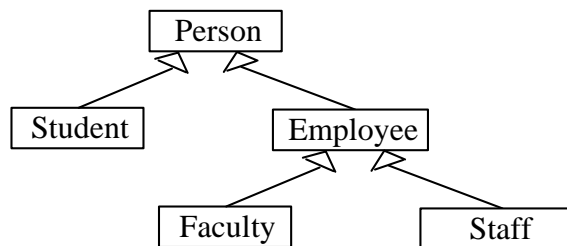
UML Class Diagram for Exercise 11.8



Chapter 15

Exercise 15.2:

UML Class Diagram for Exercise 15.2



Person
-name: string -address: string -phone: string -email: string
+Person() +Person(name: string, address: string, phone: string, email: string) +getName(): string +getAddress(): string +getPhone(): string +getEmail(): string +setName(name: string): void +setAddress(address: string): void +setPhone(phone: string): void +setEmail(email: string): void +toString(): string

Student
-status: string
+Student() +Student(name: string, address: string, phone: string, email: string) +getStatus(): string +setStatus(status: string): void +toString(): string

Employee
-office: string -salary: int -dateHired: MyDate
+Employee() +Employee(name: string, address: string, phone: string, email: string) +getOffice(): string +getSalary(): int +getDateHired(): MyDate +setOffice(office: string): void +setSalary(salary: int): void +setDateHired(dataHired: Date): void +toString(): string

Faculty
-officeHour: string -rank: string
+Faculty() +Faculty(name: string, address: string, phone: string, email: string) +getOfficeHour(): string +setOfficeHour(officeHour: string): void +getRank(): string +setRank(rank: string): void +toString(): string

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

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

Exercise 15.4:
UML Class Diagram for Exercise 15.4

