

Subject: UML Ch10

10.1

Time

- hour:int
- Minutes:int
- Seconds:int
- + Time()
- + Time(elapsedTime:Long)
- + Time(newHour:int, newMinute:int, newSecond:int)
- + getHour():int
- + getMinute():int
- + getSecond():int
- + setTim(elapsedTime:long):Void

10.3

MyInteger

- value:int
- + getValue():int
- + isEven():boolean
- + isOdd():boolean
- + isPrime():boolean
- + isEven(n:int):boolean
- + isOdd(n:int):boolean

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+ isPrime (n:int) : boolean
+ isEven (MyInteger n) : boolean
+ isOdd (n: MyInteger) : boolean
+ isPrime (n: MyInteger) : boolean
+ equals(n: int) : boolean
+ equals(n: MyInteger) : boolean ↗ *not static*
+ parseInt (c: char[]) : int
+ parseInt (s: String) : int

10.4

MyPoint

- x: double
- y: double
+ MyPoint ()
+ MyPoint (x1: double, y1: double)
+ getX () : double
+ getY () : double
+ distance (x1: double, y1: double) : double
+ distance (P: MyPoint) : double

10.8:

Tax

```
+ SINGLE_FILER = 0
+ MARRIED_JOINT = 1
+ MARRIED_SEPARATELY = 2
+ HEAD_OF_HOUSEHOLD = 3
- filingstatus:int
- brackets: int []
- rates: double []
+ Tax()
+ Tax (filingstatus:int, brackets: int [],
       rates: double [], taxableIncome: double)
+ setBrackets(brackets: int []): void
+ setFilingStatus(filingStatus: int): void
+ setRates(Rates: double []): void
+ setTaxableIncome(taxableIncome: double): void
+ getTaxableIncome(): double
+ getFilingStatus(): int
+ getBrackets(): int []
+ getRates(): double []
+ findTax(): double
```

Subject:

10.10:

Queue

- elements: int []

- size: int = 0

+ Queue()

+ enqueue (V int) : void

+ dequeue () : int

+ empty () : boolean

+ getSize () : int

10.11:

Circle2D

- xCenter: double

- yCenter: double

- radius: double

+ Circle2D()

+ Circle2D (newX: double, newY: double,
newRadius: double)

+ getXCenter (): double

+ getYCenter (): double

+ getRadius (): double

+ getArea (): double

Subject:

- + getPerimeter(): double
- + contains(X: double, Y: double): boolean
- + contains(Circle2D: Circle2D): boolean
- + overlaps(Circle1: Circle2D): boolean

10.12.

Triangle2D

- P₁: MyPoint
- P₂: MyPoint
- P₃: MyPoint
- + Triangle2D()
- + Triangle2D(P₁: MyPoint, P₂: MyPoint, P₃: MyPoint)
- + getP₁(): MyPoint
- + getP₂(): MyPoint
- + getP₃(): MyPoint
- + setP₁(P₁: MyPoint): void
- + setP₂(P₂: MyPoint): void
- + setP₃(P₃: MyPoint): void
- + getArea(): double
- + getPerimeter
- + contains(P_i: MyPoint): boolean

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Subject:

- + Contains (Triangle $\&$: Triangle2D) : boolean
- + overlaps (Triangle $\&$: Triangle2D) : boolean

10.13:

MyRectangle2D

- x-Center : double

- y-Center : double

- width : double

- height : double

+ MyRectangle2D()

+ MyRectangle2D(x:double, y:double, ~~newWidth:double, newHeight:double~~
newWidth:double, newHeight:double)

+ setXcenter(newX:double) : void

+ setYcenter(newY:double) : void

+ setWidth(newWidth:double) : void

+ setHeight(newHeight:double) : void

+ getXCenter() : double

+ getYCenter() : double

+ getWidth() : double

+ getHeight() : double

+ getArea() : double

+ getPerimeter() : double

Suffix:

+ Contains($P : \text{MyPoint}$) : boolean
+ Contains($R : \text{MyRectangle2D}$) : boolean
+ overlaps($r : \text{MyRectangle2D}$) : boolean

10.14:

MyDate

- year : long int
- month : long int
- Day : long int
+ MyDate()
+ MyDate(elapsedTime : long)
+ MyDate(~~newYear~~ : int, ~~newMonth~~ : int,
newDay : int)
+ getDay() : int
+ getMonth() : int
+ getYear() : int
+ setDate(elapsedTime : long) : void