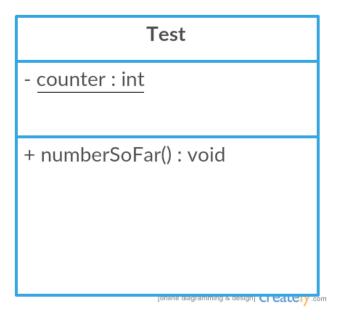
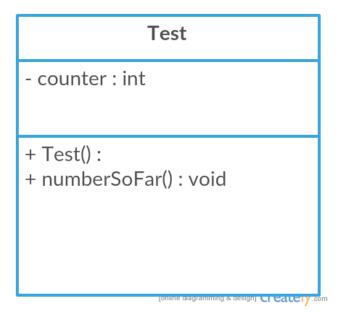
### Lab 6: Classes and objects manipulation

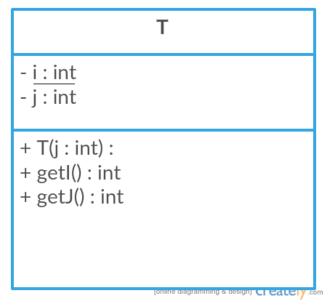
The below UML are made using https://creately.com/.

### 1. **Program 6.1**

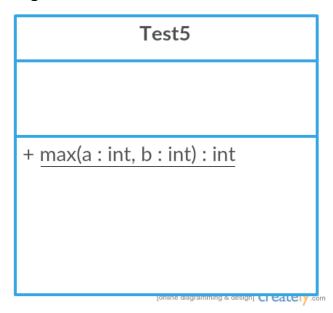


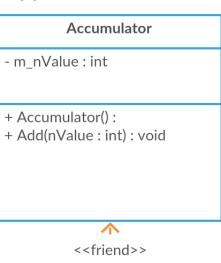
### Program 6.2





### Program 6.4





### StandaloneFunction

+ Reset(cAccumulator : Accumulator &) : void

[online diagramming & design] CF EaLETY



- m\_nValue : int
- m\_dValue : double
- + Storage(nValue : int, dValue : double)



### Display

- m\_bDisplayIntFirst : bool
- + Display(bDisplayIntFirst : bool) :
- + DisplayItem(cStorage : Storage &) : void

[online diagramming & design] CI eacely.co

### Date

month: intday: intyear: int

+ Date(a:int, b:int, c:int)

+ Date()

+ print(): void

conline diagramming & design] CI EalEly.con

### Program 6.8

### Date

month: intday: int

- year : int

+ Date(a : int, b : int, c : int)

+ Date(second : const Date &)

+ print(): void

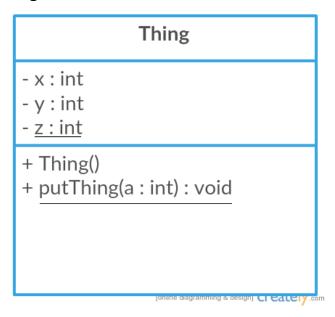
online diagramming & design] CI Ealely.c

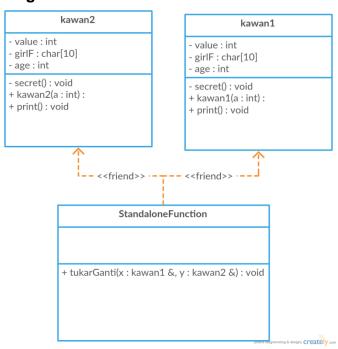
6. The corrected code is at Lab 6: Answers & Codes in front.

### Number - m\_num : int + Number() : + Number(n : int) : + GetNumber() : int + SetNumber(n : int) : void + operator++() : Number

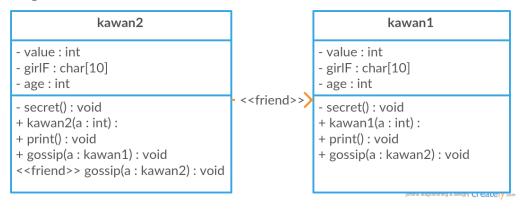
### **EXERCISE 2: STRUCTURED PROBLEMS**

### 1. **Program 6.9**





### Program 6.11



### 3. The code is in front.

# Rectangle - width: int - height: int + Rectangle(): + Rectangle(a:int, b:int): + calculateArea(): int </friend>> StandaloneFunction

+ duplicate(a : Rectangle) : Rectangle

online diagramming & design] CI EauCIY.co

### 4. The code is in front.

### Rectangle - width: int - height: int + Rectangle(a : int, b : int) + calculateArea(): int + convert(a : Square) : void <<friend>> Square - side : int + Square(side : int) :

### 5. The code is in front.

### FeetInches

feet : intinches : int

+ FeetInches(f : int, i : int) : + setFeet(f : int) : void

+ setInches(i : int) : void + getFeet() : int {query} + getInches() : int {query}

[online diagramming & design] CI EalEly.con

## Length - len\_inches : int + Length(feet : int, inches : int) : + getFeet() : int + getInches() : int <<frreed>> StandaloneFunction

+ operator <(a : Length, b : Length) : bool + operator ==(a : Length, b : Length) : bool

[online diagramming & design] CI EaCETY

### **EXERCISE 3: PROBLEM SOLVING**

### 1. Program 6.15

