**(3 marks)**

Write a class named Medicine and a class named PrescriptionMedicine extended from Medicine (i.e. Medicine is a superclass and PrescriptionMedicine is a subclass) with the following information:

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| Medicine | Where:   * Medicine() - default constructor * Medicine(name:String, indication:String, expirationYear:int) – parameterized constructor, which sets values to name, indication, and expirationYear * getName (): String – return medicine name * getIndication (): String – return indication with the first character in uppercase, the remaining characters are lowercase * getExpirationYear(): int – return the expiration year * toString():String - return a string format that contains all the information of the Medicine: name, indication, expirationYear |  |
| - name : String  - indication:String  - expirationYear : int |
| + Medicine()  + Medicine(name:String, indication:String, expirationYear:int)  + getName():String  + getIndication (): String  + getExpirationYear(): int  + toString(): String |

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| --- | --- | --- |
| PrescriptionMedicine | Where:   * PrescriptionMedicine () - default constructor * PrescriptionMedicine(name:String, indication: String, expirationYear:int, doctorName:String) - parameterized constructor, which sets values to name, indication, expirationYear, and doctorName * getters & setters: write the setters and getters all of the fields * isExpired(currentYear:int): String – return "Expired" if the current year is greater than the expiration year, otherwise return "Valid". * toString(): String - Override toString() method to return a string that contains all the information of the PrescriptionMedicine: name, indication, expirationYear, doctorName. The name, indication and doctorName with the first character in uppercase, the remaining characters are lowercase |  |
| - doctorName : String |
| + PrescriptionMedicine()  + PrescriptionMedicine(name:String, indication:String, expirationYear:int, doctorName:String)  + getters & setters  + isExpired(currentYear:int): String  + toString(): String |

**The program output might look something like this**

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| Enter the medicine: panadol  Enter the indication: headache  Enter the expiration year: 2025  Enter the doctor's name: david  1. Test getIndication()  2. Test isExpired()  3. Test toString()  Enter TC(1|2|3): 1  OUTPUT:  Headache | Enter the name: panadol  Enter the indication: headache  Enter the expiration year: 2025  Enter the doctor's name: david  1. Test getIndication()  2. Test isExpired()  3. Test toString()  Enter TC(1|2|3): 2  Enter current year: 2024  OUTPUT:  Valid | Enter the name: panadol  Enter the indication: headache  Enter the expiration year: 2025  Enter the doctor's name: davID  1. Test getIndication()  2. Test isExpired()  3. Test toString()  Enter TC(1|2|3): 3  OUTPUT:  Panadol, Headache, 2025, David |