**OOP Assignment 3**

**Student ID:** 23k0703

**Section:** BCS-2D

**Question 1:**

**Code:**

#include <iostream>

#include <chrono>

using namespace std;

using namespace chrono;

class Medicine

{

protected:

string name, formula;

float retailPrice;

int manufactureDate, expirationDate;

public:

Medicine(

string name,

string formula,

float retailPrice,

int manufactureDate,

int expirationDate)

: name(name),

formula(formula),

retailPrice(retailPrice),

manufactureDate(manufactureDate),

expirationDate(expirationDate) {}

string getName()

{

*return* this->name;

}

void setName(string name)

{

this->name = name;

}

string getFormula()

{

*return* this->formula;

}

void setFormula(string formula)

{

this->formula = formula;

}

float getRetailPrice()

{

*return* this->retailPrice;

}

void setRetailPrice(float retailPrice)

{

this->retailPrice = retailPrice;

}

int getManufactureDate()

{

*return* this->manufactureDate;

}

void setManufactureDate(int manufactureDate)

{

this->manufactureDate = manufactureDate;

}

int getExpirationDate()

{

*return* this->expirationDate;

}

void setExpirationDate(int expirationDate)

{

this->expirationDate = expirationDate;

}

*virtual* void printMedicine() = 0;

};

class Tablet : public Medicine

{

float sucroseLevel;

public:

Tablet(

string name,

string formula,

float retailPrice,

int manufactureDate,

int expirationDate,

float sucroseLevel)

: Medicine(

name,

formula,

retailPrice,

manufactureDate,

expirationDate),

sucroseLevel(sucroseLevel) {}

void printMedicine()

{

cout << "=====Medicine Details=====" << endl;

cout << "name: " << name << endl;

cout << "formula: " << formula << endl;

cout << "retailPrice: " << retailPrice << endl;

cout << "manufactureDate: " << manufactureDate << endl;

cout << "expirationDate: " << expirationDate << endl;

cout << "sucroseLevel: " << sucroseLevel << endl;

}

};

class Capsule : public Medicine

{

float absorptionPercentage;

public:

Capsule(

string name,

string formula,

float retailPrice,

int manufactureDate,

int expirationDate,

float sucroseLevel)

: Medicine(

name,

formula,

retailPrice,

manufactureDate,

expirationDate),

absorptionPercentage(absorptionPercentage) {}

void printMedicine()

{

cout << "=====Medicine Details=====" << endl;

cout << "name: " << name << endl;

cout << "formula: " << formula << endl;

cout << "retailPrice: " << retailPrice << endl;

cout << "manufactureDate: " << manufactureDate << endl;

cout << "expirationDate: " << expirationDate << endl;

cout << "absorptionPercentage: " << absorptionPercentage << endl;

}

};

class Syrup : public Medicine

{

public:

Syrup(

string name,

string formula,

float retailPrice,

int manufactureDate,

int expirationDate,

float sucroseLevel)

: Medicine(

name,

formula,

retailPrice,

manufactureDate,

expirationDate) {}

};

class Pharmacist

{

public:

void searchMedicine(Medicine *\**medicineList);

};

class Counter

{

public:

void searchMedicine(Medicine *\**medicineList);

void updateRevenue(Medicine *&*medicine);

};

bool operator==(Medicine *&*med1, Medicine *&*med2)

{

*return* med1.getExpirationDate() == med1.getManufactureDate();

}

int main()

{

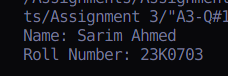
*// Header*

cout << "Name: Sarim Ahmed\nRoll Number: 23K0703\n\n";

}

**Output:**

**[No Output as per the question requirements of a skeleton class and function headers]**

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