Problem Solving and Lab C++

Assignment 1

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Question 1

#include <iostream>

using namespace std;

int main() {

int code = 0, quantity = 0, price=0;

int menu[4] = { 5000, 1000, 2000, 2500 };

//print menu table

cout << "Home Plus" << endl

<< "Code\t\t" << "Item\t\t" << "Rate\_Won\t\t" << endl

<< "1\t\t" << "shampoo\t\t" << "5000\t\t" << endl

<< "2\t\t" << "soap\t\t" << "1000\t\t" << endl

<< "3\t\t" << "Beer\t\t" << "2000\t\t" << endl

<< "4\t\t" << "Milk\t\t" << "2500\t\t" << endl;

//get vars

cout << "Enter the code:" ;

cin >> code;

cout << "Enter the quantity:";

cin >> quantity;

//calculate the price

price = menu[code - 1] \* quantity;

cout << "Total price is: " << price << endl;

//if needs floating number output

//printf("Total price is: %lf\n", (double)price);

//system("pause");

return 0;

}

Question 2

#include <iostream>

using namespace std;

//define class student

class student

{

//class's member vars

char name[50];

int id;

public:

//class's member functions

void getdata();

void putdata();

};

//define class's functions

void student::getdata() {

cout << "name: ";

cin.get(name, 50);

cout << "id: ";

cin >> id;

}

void student::putdata() {

cout << "name: " << name << ", id: " << id << endl;

}

int main() {

student std;

//call functions

std.getdata();

std.putdata();

//system("pause");

return 0;

}

Question 3

#include <iostream>

using namespace std;

//define class

//If class name==function name, then it calls "generator function"

//so I changed class name's first spell as upper

class Largest {

int n1, n2;

public:

void input() {

cin >> n1 >> n2;

}

void largest() {

//use conditional operator

int result = n1 > n2 ? n1 : n2;

cout << result << endl;

}

};

int main() {

//define instance

Largest big;

big.input();

big.largest();

return 0;

}

Question 4

#include <iostream>

using namespace std;

class student {

public:

//class's members

char name[50];

int id;

int subject[4];

void get\_details() {

cout << "name: ";

cin.get(name, 50);

cout << "id: ";

cin >> id;

//get subjects iterate

for (int i = 0; i < 4; i++)

{

cout << "Subject" << i+1 << ": ";

cin >> subject[i];

}

}

void put\_detail() {

//define sum to calculate average

int sum = 0;

for (int i = 0; i < 4; i++)

{

sum += subject[i];

}

//to print floating type output, using printf()

printf("total Percentage: %.2f", (float)sum / 4);

}

};

int main() {

student std;

std.get\_details();

std.put\_detail();

return 0;

}

Question 5

#include <iostream>

using namespace std;

class student {

//class's members

char name[50];

int id;

public:

void getdata() {

cout << "Name:";

cin.get(name, 50);

cout << "ID:";

cin >> id;

}

void putdata() {

cout << "Name:" << name << endl

<< "ID:" << id << endl;

}

};

int main() {

student std[5];

//get and put iteratively

for (int i = 0; i < 5; i++)

{

cout << "student: " << i+1<<endl;

std[i].getdata();

getchar();

}

cout << "\*\*\*\*Output\*\*\*\*" << endl;

for (int i = 0; i < 5; i++)

{

cout << "student: " << i + 1<<endl;

std[i].putdata();

}

return 0;

}