Lab test 1

Name: Jake Scott

Student ID: 102581840

Source Code (Copy and paste your code below)

#include <iostream>

#include <cstdlib>

#include <ctime>

#include <math.h>

using namespace std;

int tv() {

srand(time(0));

double minimum = 300;

double maximum = 1000;

double random = (float)rand()/(float)maximum;

double diff = maximum - minimum;

double price = random + diff;

int amount = rand()% 10 + 1;

cout << "Rate for TV is: " << price << endl;

if (price > 500) {

price = price - 50;

}

cout << "TV Price after payback (if any):" << price << endl;

cout << "Number of TVs in this purchase is: " << amount << endl;

double total = price \* amount;

cout << "Total Price of the TV is: " << ceil(total) << endl;

return total;

}

int refrigerator() {

srand(time(0));

double minimum = 100;

double maximum = 500;

double random = (float)rand()/(float)maximum;

double diff = maximum - minimum;

double price = random + diff;

double amount = rand()% 10 + 1;

cout << "Rate for refigerator is: " << price << endl;

cout << "Number of refrigerators in this purchase is " << amount << endl;

int total = (price \* amount) \* 1.055;

cout << "Bill amount for Refrigerator is " << ceil(total) << endl;

return total;

}

int laptop() {

srand(time(0));

double price = 1000;

int amount = rand()% 10 + 1;

cout << "Rate for laptop is: " << price << endl;

cout << "Number of laptops in this purchase is: " << amount << endl;

int total = price \* amount;

cout << "Bil amount for laptop is " << ceil(total) << endl;

return total;

}

int mobile() {

srand(time(0));

double price = 500;

int amount = rand()% 10 + 10;

double total;

cout << "Rate for mobile is: " << price << endl;

cout << "Number of mobiles in this purcahse is: " << amount << endl;

if (amount > 10) {

amount = amount - 10;

int discountTotal = amount \* 250;

int normalTotal = price \* 10;

total = discountTotal + normalTotal;

}

else {

total = price \* amount;

}

cout << "Bill amount for mobile is: " << ceil(total) << endl;

return total;

}

int main()

{

string menu\_input;

bool i = true;

cout << "" << endl;

cout << "" << endl;

cout << "Enter T for TV" << endl;

cout << "Enter R for Refrigerator" << endl;

cout << "Enter L for Laptop" << endl;

cout << "Enter M for Mobile" << endl;

cout << "Enter E to exit" << endl;

while (i) {

cin >> menu\_input;

double tv\_total, refrigerator\_total, laptop\_total, mobile\_total, total;

if (menu\_input == "T") {

cout << "You have selected TV" << endl;

tv\_total = tv();

main();

}

else if (menu\_input == "R") {

cout << "You have selected Refrigerator" << endl;

refrigerator\_total = refrigerator();

main();

}

else if (menu\_input == "L") {

cout << "You have selected Laptop" << endl;

laptop\_total = laptop();

main();

}

else if (menu\_input == "M") {

cout << "You have selected Mobile" << endl;

mobile\_total = mobile();

main();

}

else if (menu\_input == "E") {

cout << "" << endl;

cout << "" << endl;

cout << "Final Recipt" << endl;

cout << "TV: " << tv\_total << endl;

cout << "Refrigerator: " << refrigerator\_total << endl;

cout << "Laptop: " << ceil(laptop\_total) << endl;

cout << "Mobile: " << mobile\_total << endl;

total = tv\_total + refrigerator\_total + laptop\_total + mobile\_total;

cout << "Total :" << total << endl;

cout << "Rounded Bill amount is: " << nearbyint(total) << endl;

i = false;

}

else {

cout << "Please select a valid option" << endl;

}

}

return 0;

}

Screenshots of output window

A screenshot of a computer

Description automatically generated