In class programming assignments – class 4 – 11/8/2017

1. Write a program that prompt user to enter three decimal number then you program will print the numbers as well as their average.
2. Prompt user to enter values for a, b, and c, then evaluate the expression:



#include <iostream>

using namespace std;

int main()

{

double d1, d2, d3, average;

cout << "Enter three decimal numbers: \n";

cin >> d1 >> d2 >> d3;

average = (d1 + d2 + d3) / 3;

cout << "Average of " << d1 << " , " << d2 << " , and " << d3 << " is " << average << endl;

double formula;

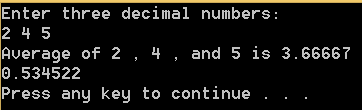
formula = (sqrt(pow(d2,2) - d1)) / (d3 + d1);

cout << formula << endl;

system("pause");

return 0;

}



1. The formula to convert Fahrenheit to Celsius is given by . Prompt user to enter temp in Fahrenheit then convert the temperature to degree Celsius C and display a message base on the following chart:

0 <= C <= 20 it is cold

20 < C < = 25 comfortable

25< C < 30 Hot

C >= 30 uncomfortable

#include <iostream>

using namespace std;

int main()

{

double far;

cout << "Enter temp in Farenheit: \n";

cin >> far;

double c = (5.0 / 9.0) \* (far - 32);

if (c >= 0 && c <= 20)

cout << "Cold\n";

else if (c > 20 && c <= 25)

cout << "Comfortable\n";

else if (c > 20 && c < 30)

cout << "Hot\n";

else if (c >= 30)

cout << "Uncomfortable\n";

system("pause");

return 0;

}



1. Write a C+ program that prompts user to enter number of pennies then display the amount in single dollar bills, quarters, dimes, nickels and pennies. For example, 467 pennies is equivalent to 4 dollar bills, 2 quarters, one dime, one nickel and 2 pennies. [**Hint: integer division and mod operator**]

#include <iostream>

using namespace std;

int main()

{

// Prompt user to enter pennies

int penny;

cout << "Enter the number of pennies: \n";

cin >> penny;

// Separate into dollar bills, quarters, dimes, nickels, and pennies

int d1 = penny / 100;

int remaining = penny % 100;

int d2 = remaining / 25;

remaining %= 25;

int d3 = remaining / 10;

remaining %= 10;

int d4 = remaining / 5;

remaining %= 5;

int d5 = remaining;

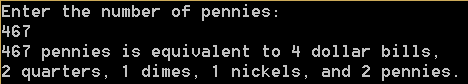
cout << penny << " pennies is equivalent to " << d1 << " dollar bills, " << endl

<< d2 << " quarters, " << d3 << " dimes, " << d4 << " nickels, and " << d5 << " pennies.\n";

system("pause");

return 0;

}



1. Write a program in which the user is prompter to enter character y for YES or character n for NO. User may enter upper case or lower case character. You program must read this character then display a message indicating whether the user entered YES or NO. [This how you would write this with a switch statement]

#include <iostream>

using namespace std;

int main()

{

// Prompt user to enter character y for YES or character n for NO

char y;

cout << "Enter character Y/y for YES or character N/n for NO\n";

cin >> y;

// Make all characters upper case

y = toupper(y);

switch (y)

{

case 'Y': cout << "Yes\n";

break;

case 'N': cout << "No\n";

break;

}

system("pause");

return 0;

}



1. Prompt user to enter a sentence. Read the sentence using getline() command. Then display the number of characters in the sentence, the character at index 5, change the third character in the sentence to a ‘P’, and display the sentence.

#include <iostream>

#include <string>

using namespace std;

int main()

{

// Prompt user to enter a sentence

string s;

cout << "Enter a sentence\n";

getline(cin, s);

// Display the number of characters in the sentence

cout << s.length() << endl;

// Display the character at index 5

cout << s.at(5) << endl;

// Change the third character in the sentence to a ‘P’, and display the sentence

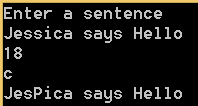
s[3] = 'P';

cout << s << endl;

system("pause");

return 0;

}



1. Write a program that sets

double 34.5423;

string s=”dollars”;

then use the stream manipulators to display the following output exactly:

===34.54====dollars

Dollars=======35.54

#include <iostream>

#include <string>

#include <iomanip>

using namespace std;

int main()

{

double x = 34.5423;

string s = "dollars";

cout << setw(8) << fixed << setprecision(2) << x << setw(11) << s << endl;

cout << s << setw(11) << fixed << setprecision(2) << x << endl;

system("pause");

return 0;

}



1. Write a program that reads a floating point, and integer, a character and a string from a file then prints them on computer screen as well as another file

#include <iostream>

#include <string>

#include <fstream>

using namespace std;

int main()

{

ofstream output;

output.open("C:\\textfiles\\data4.txt");

output << 3.5 << " " << 2 << " " << 't' << " " << "Hi";

output.close();

ifstream input;

input.open("C:\\textfiles\\data4.txt");

double n1;

int n2;

char n3;

string n4;

input >> n1 >> n2 >> n3 >> n4;

input.close();

ofstream out;

out.open("C:\\textfiles\\data.txt");

cout << n1 << " " << n2 << " " << n3 << " " << n4 << endl;

out << n1 << " " << n2 << " " << n3 << " " << n4 << endl;

out.close();

system("pause");

return 0;

}

