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Script started on 2023-09-25 15:31:11-05:00 [TERM="xterm" TTY="/dev/pts/2" COLUMNS=
ee43254@ares:~$ pwd
/home/students/ee43254
ee43254@ares:~$ cat distance.info
Name: Kyle Enkhzul
Class: CSC121-001

Activity: From Here to therE
Level: 2.5, 1.5 (base program) + 1 (points notation)

Description:

The user inputs two points into the program. The program then takes the two
points and calculates the distance between them.

ee43254@ares:~$ show-code distance.cpp


distance.cpp:


#include <iostream>
#include <cmath>

using namespace std;

int main() {
        double x1, x2, y1, y2, distance;
        char garbage;

        cout << "\t\n Welcome to the 2D Distance Program!!!\t\n";

        cout << "\n What is the first point? ";
        cin >> garbage >> x1 >> garbage >> y1 >> garbage;


        cout << "\n What is the second point? ";
        cin >> garbage >> x2 >> garbage >> y2 >> garbage;

        cout << "\n Thank you!!! Calculating... Done. \n";

        distance = sqrt(pow(x2-x1, 2) + pow(y2-y1, 2));

        cout << "\n(" << x1 << ", " << y1 << ") is " << distance
        << " units away from (" << x2 << ", " << y2 << ").\n";

        cout << "\nThank you for using the TDP!!\n";
        cout << "\nHave a good day\n";
}
ee43254@ares:~$ CPP distance
distance.cpp***


ee43254@ares:~$ ./distance.out
```

```
 Welcome to the 2D Distance Program!!!

 What is the first point? (3.4, 12.2)

 What is the second point? (13.4, 12.2)

 Thank you!!! Calculating... Done.

(3.4, 12.2) is 10 units away from (13.4, 12.2).

Thank you for using the TDP!!

Have a good day
ee43254@ares:~$ ./distance.out

 Welcome to the 2D Distance Program!!!

 What is the first point? (-3.4, 12.2)

 What is the second point? (-13.4, 12.2)

 Thank you!!! Calculating... Done.

(-3.4, 12.2) is 10 units away from (-13.4, 12.2).

Thank you for using the TDP!!

Have a good day
ee43254@ares:~$ ./distance.out

 Welcome to the 2D Distance Program!!!

 What is the first point? #3.4, 12.2(

 What is the second point? %13.4, 12.2*

 Thank you!!! Calculating... Done.

(3.4, 12.2) is 10 units away from (13.4, 12.2).

Thank you for using the TDP!!

Have a good day
ee43254@ares:~$ cat distance.tpq
TPQs
1. What functions will you use from the math library?

        The functions I will use from the math library is the sqrt() and pow()
        functions.

2. How many arguments does each function you are calling accept? What do they
mean?
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        The pow() function accepts two parameters. The first parameter is the
        number to be raised to a n power. The second parameter is the n of the
        power. The sqrt() function accepts one parameter. It takes in the number
        to be square rooted.

3. Do the arguments you pass to the function have to have certain names or
values? What about types?

        The sqrt function works with any short, long, or double data types as
        long as the domain for that variable is not negative. If names are used,
        they must be the correct data type and have some value stored in them.

4. How many values are returned from each function you are calling? What do
you do with these values?

        The pow() and sqrt() function both returns some number. I take the power
        of the x values and y values subtracted and raise them to the second
        power. I then add these two with the use of parantheses to ensure proper
        order of operations and then square root the final sum.

More TPQs
1. How many variables are needed to make the input format more natural for
the user? At minimum? At most?

        At minimum, only one char variable is needed. At most, six char variables
        are needed.

2. How can the parentheses and comma be placed right next to the numbers
like that? How can cin determine where the number stops and the other stuff
begins? Remember what happened when you typed a symbol or letter at a numeric
prompt before? Why doesn't that cause problems here?

        By manipulating the cin line, one can force the input to take in a char
        and skip straight to the number. Since digits and symbols are chars,
        cin input recognizes this and inputs the number.

3. What happens if the user doesn't type the parentheses or the comma? What
 happens if they type some other symbols instead? Letters instead? Digits
 instead? (Try input like: $4^5%and see what happens. Try 44 12x� what
 happens? Experiment...)

        The way I have set up, if the user doesn't type the parantheses or comma,
        the code breaks as it is searching for a char variable that is not there.
        Additionally, it will break if the user types in a digit. If the user
        types any other symbol or letter, the code will work as normal.

        ee43254@ares:~$ exit
exit

Script done on 2023-09-25 15:32:34-05:00 [COMMAND_EXIT_CODE="0"]
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