```
Script started on 2021-11-04 17:42:15-05:00 [TERM="xterm" TTY="/dev/pts/6" COLUMNS=
a_vitale7@ares:~$ pwd
/home/students/a_vitale7
a_vitale7@ares:~$ cat dadWhenAreYouDad.info
/*****************************************************************************
 *                                                                          *
 *  NAME:  Antonino Vitale                      CLASS:  CSC121-W02          *
 *                                                                          *
 *  Lab:  Dad! When are you, Dad!               Level:  6                   *
 *                                                                          *
 *  Description:                                                            *
 *                                                                          *
 *      This program takes a user inputted string then reads how many       *
 *      words are in that string. Then asks the user if they would like     *
 *      to see the letter count in the string. Finally it asks the user     *
 *      if they would like to enter another string.                         *
 *                                                                          *
 *****************************************************************************/
a_vitale7@ares:~$ dadWhenAreYouDad.cpp
dadWhenAreYouDad.cpp: command not found
a_vitale7@ares:~$ cat dadWhenAreYouDad.cpp
#include <iostream>

#include <sstream>

#include <iomanip>

#include <limits>

#include <math.h>

#include <time.h>

#include <cstdlib>

#include <array>

#include <string>

#include <stdlib.h>

#include <vector>


using namespace std;


const string confirmationYes[] = { "y","yes","yea","yepperooni","yes, I do, I most

short int letterOccurances[26];
```

```cpp
bool confirm(string test); //prototype confirm

bool isletter(char text); //function prototype letters

unsigned short int findNumOfWords(string text); //function prototype findNumOfWords

unsigned short int findall(string text, char find); //function prototype findall


int main(void) //main function

{

        string input, stringIn; //string input

        unsigned short int output = 0; //string output

        cout << "\n\t\tWelcome to the String Comparing Program!!!\n"; //Program tit

        do {

                cout << "\nString input: "; //Program question

                cin >> ws; //clear whitespace

                getline(cin, input); //gets cin and put into input string

                stringIn.clear();

                stringIn = input;

                output = findNumOfWords(stringIn);

                cout << "\nYour line contained " << output << " words." << endl;

                cout << "\nWould you like to print a list of the amount of letters

                cin >> ws; //clear whitespace

                getline(cin, input); //gets cin and put into input string.

                if (confirm(input)) {

                        cout << "\nThe following letters occurred the indicated num

                        for (int i = 0; i < 26; i++) {

                                letterOccurances[i] = findall(stringIn, char(i + 9

                                if (bool(findall(stringIn, char(i + 97))) == true)
```

```cpp
                        printf("\n\t%c: %i", char(i + 97), letterOc
                }
            }
        }
        cout << "\nWould you like to input another string? "; //Program que
        cin >> ws; //clear whitespace
        getline(cin, input); //gets cin and put into input string.
    } while (confirm(input));
    cout << "\nThank you for using the SCP!\n\nEndeavor to have a astounding da
  return 0;
}


bool isletter(char test) {
    for (unsigned short int ch = 0; ch < 26; ch++) {
        if (tolower(test) == char(ch + 97)) {
            return true;
        }
    }
    return false;
}

unsigned short int findNumOfWords(string text) {
    unsigned short int amtOfWords = 0;
    for (unsigned long int i = 0; i < text.length(); i++) {
        if (text[i+1] == '\'' || text[i + 1] == '"' || text[i + 1] == '-')
            i++;
        }

        if (isletter(text[i]) && !isletter(text[i+1]) ) {
                amtOfWords++;
                //printf("\nLocation at %i: %c", i, text[i]); //debug locat
        }
    }
    return amtOfWords;
}


unsigned short int findall(string text, char find) {
    unsigned short int found = 0;
    for (unsigned long int i = 0; i < text.length(); i++) {
        if (tolower(text[i]) == tolower(find)) {
            found++;
        }
    }
    return found;
}


bool confirm(string test) { //confirm function definition
    for (unsigned short int search = 0; search < 11; search++) { //for loop to
        if (test == confirmationYes[search]) { //if test for yes confirmat:
            return true; //return true if yes confirmation is a yes
        }
    }
    return false; //return true if yes confirmation is not a yes
}
```

```
a_vitale7@ares:~$ CPP dadWhenAreYouDad
dadWhenAreYouDad.cpp***


a_vitale7@ares:~$ ./dadWhenAreYouDad.out

                Welcome to the String Comparing Program!!!

String input: Coding is fun

Your line contained 3 words.

Would you like to print a list of the amount of letters used in the words? y

The following letters occurred the indicated number of times:
        c: 1
        d: 1
        f: 1
        g: 1
        i: 2
        n: 2
        o: 1
        s: 1
        u: 1
Would you like to input another string? y

String input: I live in Palatine, where do you live?

Your line contained 8 words.

Would you like to print a list of the amount of letters used in the words? y

The following letters occurred the indicated number of times:
        a: 2
        d: 1
        e: 5
        h: 1
        i: 5
        l: 3
        n: 2
        o: 2
        p: 1
        r: 1
        t: 1
        u: 1
        v: 2
        w: 1
        y: 1
Would you like to input another string? n

Thank you for using the SCP!

Endeavor to have a astounding day!
```

```
a_vitale7@ares:~$ ./dadWhenAreYouDad.out

                Welcome to the String Comparing Program!!!

String input: I went to Palatine High School

Your line contained 6 words.

Would you like to print a list of the amount of letters used in the words? y

The following letters occurred the indicated number of times:
        a: 2
        c: 1
        e: 2
        g: 1
        h: 3
        i: 3
        l: 2
        n: 2
        o: 3
        p: 1
        s: 1
        t: 3
        w: 1
Would you like to input another string? n

Thank you for using the SCP!

Endeavor to have a astounding day!
a_vitale7@ares:~$ ./dadWhenAreYouDad.out

                Welcome to the String Comparing Program!!!

String input: I have a dog. His name is Charlie.

Your line contained 8 words.

Would you like to print a list of the amount of letters used in the words? y

The following letters occurred the indicated number of times:
        a: 4
        c: 1
        d: 1
        e: 3
        g: 1
        h: 3
        i: 4
        l: 1
        m: 1
        n: 1
        o: 1
        r: 1
        s: 2
        v: 1
```

```
Would you like to input another string? y

String input: I like to play DND

Your line contained 5 words.

Would you like to print a list of the amount of letters used in the words? y

The following letters occurred the indicated number of times:
        a: 1
        d: 2
        e: 1
        i: 2
        k: 1
        l: 2
        n: 1
        o: 1
        p: 1
        t: 1
        y: 1
Would you like to input another string? n

Thank you for using the SCP!

Endeavor to have a astounding day!
a_vitale7@ares:~$ ./dadWhenAreYouDad.out

                Welcome to the String Comparing Program!!!

String input: Where is 123 Main Street?

Your line contained 4 words.

Would you like to print a list of the amount of letters used in the words? y

The following letters occurred the indicated number of times:
        a: 1
        e: 4
        h: 1
        i: 2
        m: 1
        n: 1
        r: 2
        s: 2
        t: 2
        w: 1
Would you like to input another string? n

Thank you for using the SCP!

Endeavor to have a astounding day!
a_vitale7@ares:~$ ./dadWhenAreYouDad.out

                Welcome to the String Comparing Program!!!
```

```
String input: I think SpaceX is cool

Your line contained 5 words.

Would you like to print a list of the amount of letters used in the words? y

The following letters occurred the indicated number of times:
        a: 1
        c: 2
        e: 1
        h: 1
        i: 3
        k: 1
        l: 1
        n: 1
        o: 2
        p: 1
        s: 2
        t: 1
        x: 1
Would you like to input another string? y

String input: What do you think is cool?

Your line contained 6 words.

Would you like to print a list of the amount of letters used in the words? y

The following letters occurred the indicated number of times:
        a: 1
        c: 1
        d: 1
        h: 2
        i: 2
        k: 1
        l: 1
        n: 1
        o: 4
        s: 1
        t: 2
        u: 1
        w: 1
        y: 1
Would you like to input another string? n

Thank you for using the SCP!

Endeavor to have a astounding day!
a_vitale7@ares:~$ ./dadWhenAreYouDad.out
                    Welcome to the String Comparing Program!!!

String input: Where is Harper College located?
```

```
Your line contained 5 words.                                            2) calculate Midpoint of two points
                                                                        3) Quit
Would you like to print a list of the amount of letters used in the words? y
                                                                           Choice: 3
The following letters occurred the indicated number of times:
        a: 2                                                            Thank you for using the PMP!!
        c: 2
        d: 1                                                            Endeavor to have a transcendental day!
        e: 6                                                            a_vitale7@ares:~$ ./pickAndChoose.out
        g: 1
        h: 2                                                                          Welcome to the Point Menu Program!!!
        i: 1
        l: 3                                                                1) calculate Distance between two points
        o: 2                                                                2) calculate Midpoint of two points
        p: 1                                                                3) Quit
        r: 3
        s: 1                                                                   Choice: 1
        t: 1
        w: 1                                                                            Welcome to the 2D Distance Program!!!
Would you like to input another string? n
                                                                        Where is your first point? (4.4, 6.6)
Thank you for using the SCP!
                                                                        Where is your second point? 2.2, 8.8)
Endeavor to have a astounding day!
a_vitale7@ares:~$ exit                                                  Thank you!!  Calculating...  Done.
exit
                                                                        (4.4, 6.6) is 3.11127 units away from (2.2, 8.8).
Script done on 2021-11-04 17:53:17-05:00 [COMMAND_EXIT_CODE="0"]
pickAndChoose.out                                                       Thank you for using the TDP!!

                 Welcome to the Point Menu Program!!!                   Endeavor to have a wondrous day!

     1) calculate Distance between two points                               1) calculate Distance between two points
     2) calculate Midpoint of two points                                    2) calculate Midpoint of two points
     3) Quit                                                                 3) Quit

        Choice: 2                                                              Choice: 3

                 Welcome to the 2D Midpoint Program!!!                  Thank you for using the PMP!!

What is the first end-point? (7.2, 0.0)                                 Endeavor to have a transcendental day!
                                                                        a_vitale7@ares:~$ ./pickAndChoose.out
What is the second end-point? (2.2, 7.8)
                                                                                     Welcome to the Point Menu Program!!!
Thank you!!  Calculating...  Done.
                                                                            1) calculate Distance between two points
The midpoint of the line segment between (7.2, 0) and (2.2, 7.8) is (4.7, 3.9).    2) calculate Midpoint of two points
                                                                            3) Quit
Thank you for using the TMP!!
                                                                               Choice: 2
Endeavor to have a voracious day!
                                                                                     Welcome to the 2D Midpoint Program!!!
     1) calculate Distance between two points
                                                                        What is the first end-point? (0.0, 2.2)
```

What is the second end-point? (2.2, 0.0)

Thank you!! Calculating... Done.

The midpoint of the line segment between (0, 2.2) and (2.2, 0) is (1.1, 1.1).

Thank you for using the TMP!!

Endeavor to have a voracious day!

    1) calculate Distance between two points
    2) calculate Midpoint of two points
    3) Quit

    Choice: 3

Thank you for using the PMP!!

Endeavor to have a transcendental day!
a_vitale7@ares:~$ exit
exit
Script done, file is typescript
a_vitale7@ares:~$ script-print Vitale-Antonino-pickAndChoose
"typescript" printed to "Vitale-Antonino-pickAndChoose.pdf".
a_vitale7@ares:~$ clear
a_vitale7@ares:~$ script
Script started, file is typescript
a_vitale7@ares:~$ pwd
/home/students/a_vitale7
a_vitale7@ares:~$ cat dadWhenAreYouDad.info
/***
 *   *
 * NAME: Antonino Vitale   CLASS: CSC121-W02   *
 *   *
 * Lab: Dad! When are you, Dad!   Level: 6   *
 *   *
 * Description: *
 *   *
 *   This program takes a user inputted string then reads how many   *
 *   words are in that string. Then asks the user if they would like   *
 *   to see the letter count in the string. Finally it asks the user   *
 *   if they would like to enter another string.   *
 *   *
 ***/
a_vitale7@ares:~$ dadWhenAreYouDad.cpp
dadWhenAreYouDad.cpp: command not found
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#include <iomanip>

#include <limits>

#include <math.h>

#include <time.h>

#include <cstdlib>

#include <array>

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#include <stdlib.h>

#include <vector>

using namespace std;

const string confirmationYes[] = { "y","yes","yea","yepperooni","yes, I do, I most

short int letterOccurances[26];

bool confirm(string test); //prototype confirm

bool isletter(char text); //function prototype letters

unsigned short int findNumOfWords(string text); //function prototype findNumOfWords

unsigned short int findall(string text, char find); //function prototype findall

int main(void) //main function

{

        string input, stringIn; //string input

        unsigned short int output = 0; //string output

        cout << "\n\t\tWelcome to the String Comparing Program!!!\n"; //Program tit

        do {

                cout << "\nString input: "; //Program question

```cpp
            cin >> ws; //clear whitespace

            getline(cin, input); //gets cin and put into input string

            stringIn.clear();

            stringIn = input;

            output = findNumOfWords(stringIn);

            cout << "\nYour line contained " << output << " words." << endl;

            cout << "\nWould you like to print a list of the amount of letters

            cin >> ws; //clear whitespace

            getline(cin, input); //gets cin and put into input string.

            if (confirm(input)) {

                cout << "\nThe following letters occurred the indicated num

                for (int i = 0; i < 26; i++) {

                    letterOccurances[i] = findall(stringIn, char(i + 9

                    if (bool(findall(stringIn, char(i + 97))) == true)

                        printf("\n\t%c: %i", char(i + 97), letterO

                }

            }

            cout << "\nWould you like to input another string? "; //Program que

            cin >> ws; //clear whitespace

            getline(cin, input); //gets cin and put into input string.

        } while (confirm(input));

        cout << "\nThank you for using the SCP!\n\nEndeavor to have a astounding da

    return 0;

}


bool isletter(char test) {

    for (unsigned short int ch = 0; ch < 26; ch++) {

        if (tolower(test) == char(ch + 97)) {

            return true;

        }

    }

    return false;

}


unsigned short int findNumOfWords(string text) {

    unsigned short int amtOfWords = 0;

    for (unsigned long int i = 0; i < text.length(); i++) {

        if (text[i+1] == '\'' || text[i + 1] == '"' || text[i + 1] == '-')

            i++;

        }

        if (isletter(text[i]) && !isletter(text[i+1]) ) {

            amtOfWords++;

            //printf("\nLocation at %i: %c", i, text[i]); //debug locat

        }

    }

    return amtOfWords;

}


unsigned short int findall(string text, char find) {

    unsigned short int found = 0;

    for (unsigned long int i = 0; i < text.length(); i++) {

        if (tolower(text[i]) == tolower(find)) {

            found++;
```

```cpp
            }

        }

        return found;

}


bool confirm(string test) { //confirm function definition

        for (unsigned short int search = 0; search < 11; search++) { //for loop to

                if (test == confirmationYes[search]) { //if test for yes confirmat:

                        return true; //return true if yes confirmation is a yes

                }

        }

        return false; //return true if yes confirmation is not a yes

}
```

```
a_vitale7@ares:~$ CPP dadWhenAreYouDad
dadWhenAreYouDad.cpp***


a_vitale7@ares:~$ ./dadWhenAreYouDad.out

            Welcome to the String Comparing Program!!!

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Your line contained 3 words.

Would you like to print a list of the amount of letters used in the words? y

The following letters occurred the indicated number of times:
        c: 1
        d: 1
        f: 1
        g: 1
        i: 2
        n: 2
        o: 1
        s: 1
        u: 1
Would you like to input another string? y
```

```
String input: I live in Palatine, where do you live?

Your line contained 8 words.

Would you like to print a list of the amount of letters used in the words? y

The following letters occurred the indicated number of times:
        a: 2
        d: 1
        e: 5
        h: 1
        i: 5
        l: 3
        n: 2
        o: 2
        p: 1
        r: 1
        t: 1
        u:
```