

Script started on 2020-11-07 19:42:53-0600

```
m_sadafl@ares:~$ pwd
/home/students/m_sadafl
m_sadafl@ares:~$ cat midpointfunc.info
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Class: CSC121 W01
```

Lab: Out in the Middle of Space lies...
Level: 3

Description:

This program helps the user calculate the midpoint of a line segment in the 2D Cartesian plane.

```
m_sadafl@ares:~$ cat midpointfunc.tpq
Thought Provoking Questions:
```

- 1) Two arguments. Double.
- 2) Double a and double b. Yes, the names matter to the compiler and in general too.
- 3) The function only returns one value. The data type of the returned value is double.
- 4) Twice.
- 5) Yes, I can use this function when working with 3D points.

```
m_sadafl@ares:~$ cat midpointfunc.cpp
#include <iostream>
#include <cmath>
```

```
using namespace std;
double midpoint(double a, double b)
{
    double result = (a + b) / 2;
    return result;
}
```

```
int main (void)
{
    double x1, x2, y1, y2;
    char t;

    cout<< "\t\t\tWelcome to 2D Midpoint Program!!! \n";

    cout<< "\nWhat is the first end-point? ";

    cin>> t >> x1 >> t >> y1 >> t;

    cout<< "What is the second end-point? ";
```

```
    cin>> t >> x2 >> t >> y2 >> t;

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

    cout<< "\nThe midpoint of the line segment between ("
        << x1 << ", " << y1 << ") and (" << x2 << ", " << y2 <<") is ("
        << midpoint(x1,x2) << ", " << midpoint(y1,y2)<< ").";

    cout<< "\nThank you for using the TMP!!!\n";

    cout<< "\nEndeavor to have a voracious day!\n";

    return 0;
}
m_sadafl@ares:~$ CPP midpointfunc
midpointfunc.cpp***

m_sadafl@ares:~$ ./midpointfunc.out
Welcome to 2D Midpoint Program!!!

What is the first end-point? (3.4, 12.2)
What is the second end-point? (13.4, 12.2)

Thank you!!! Calculating... Done.

The midpoint of the line segment between (3.4, 12.2) and (13.4, 12.2) is (8.4, 12.2).
Thank you for using the TMP!!!

Endeavor to have a voracious day!
m_sadafl@ares:~$
m_sadafl@ares:~$ ./midpointfunc.out
Welcome to 2D Midpoint Program!!!

What is the first end-point? (4.4, 8.8)
What is the second end-point? (5.9, 6.8)

Thank you!!! Calculating... Done.

The midpoint of the line segment between (4.4, 8.8) and (5.9, 6.8) is (5.15, 7.8).
Thank you for using the TMP!!!

Endeavor to have a voracious day!
m_sadafl@ares:~$
m_sadafl@ares:~$ ./midpointfunc.out
Welcome to 2D Midpoint Program!!!

What is the first end-point? (2.3, 6.4)
What is the second end-point? (1.9, 5.5)

Thank you!!! Calculating... Done.
```

The midpoint of the line segment between (2.3, 6.4) and (1.9, 5.5) is (2.1, 5.95).
Thank you for using the TMP!!!

Endeavor to have a voracious day!
m_sadaf1@ares:~\$ exit
exit

Script done on 2020-11-07 19:46:27-0600