

## CPS188 Lab02\_Errors\_Form

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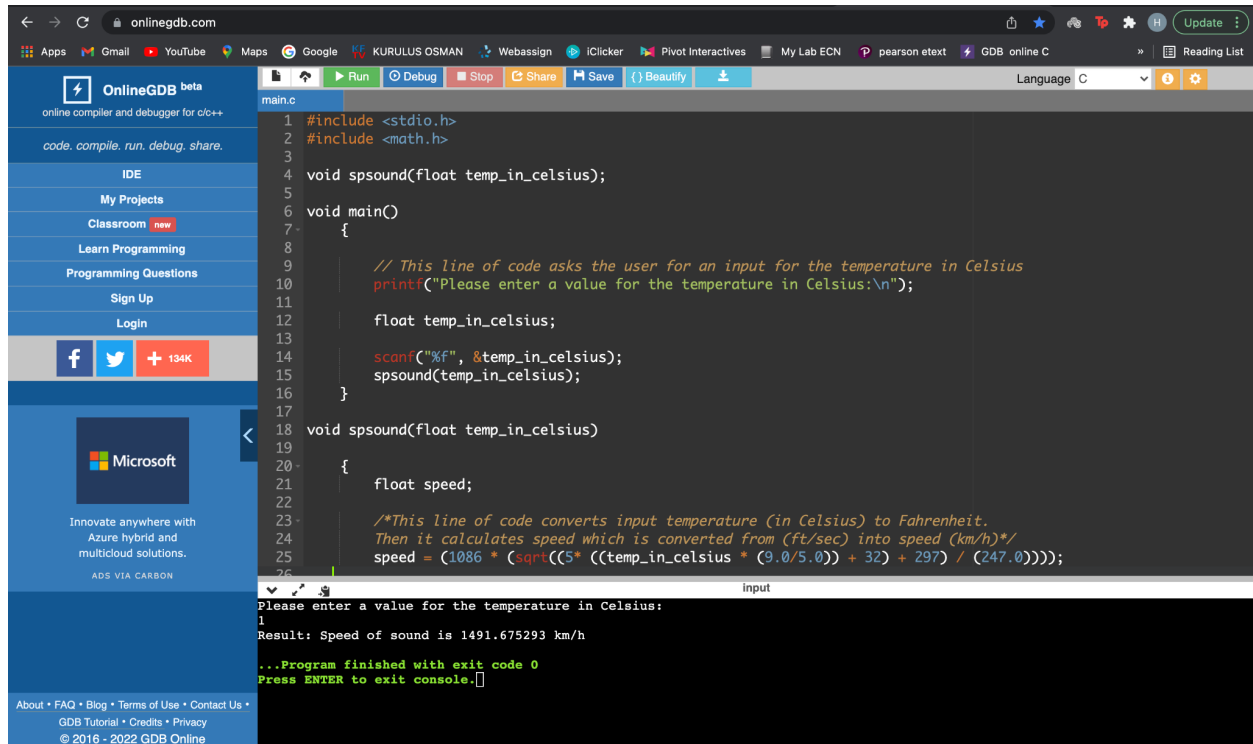
Fill this form after running each of the faulty programs. Copy and paste it to your lab 02 report.

### Problem 1:

| Program     | Error Message  | Cause of Error  | Correction Applied  |
|-------------|--|---|---|
| program01.c | <u>main.c:17:2: error:</u><br>unknown type name<br>'DOUBLE'<br>17   DOUBLE x, y, result;   | Double is all in caps<br>it and should be in<br>lowercase for the<br>program to function. | double x, y, result;                                      |
| program02.c | 23   scanf ("%lf", y);   | 'y' needs to have an<br>'&' sign before it.   | scanf ("%lf", &y);  |
| program03.c | <u>main.c:10:9: error:</u><br>incompatible types when<br>returning type 'double<br>(*)(double, double)' but<br>'double' was expected<br>10   return(aver); | ave should not have<br>an 'r'   | return (ave);   |
| program04.c | 27   printf ("The<br>average is %lf.\n",<br>aver);   | It should be 'result'<br>instead of 'aver' at the<br>end of the line                      | printf ("The average is<br>%lf.\n", result);              |
| program05.c | <u>main.c:25:17: error:</u><br>incompatible type for<br>argument 1 of 'aver'<br>25   result = aver (&x,y);   | 'x' needs to get rid of<br>the '&' sign before it.  | result = aver (x,y);                                      |
| program06.c | No error message but<br>missing bracket in the<br>line<br>ave = n1 + n2 / 2.0;   | Missing brackets<br>around n1 + n2  | ave = (n1 + n2) / 2.0;                                    |
| program07.c | int<br>aver (double n1, double<br>n2)  | Int needs to be<br>replaced with double<br>and a { is required<br>above the double ave;   | double<br>aver (double n1, double n2)<br>{<br>double ave; |

|             |  |  |  |
|-------------|--|--|--|
|             | <pre>double ave;  ave = (n1 + n2) / 2.0;  return (ave); }</pre>  |  | <pre>ave = (n1 + n2) / 2.0;  return (ave); }</pre> |
| program08.c | <pre>main.c:10:10: error: 'result' undeclared (first use in this function) 10   return (result);</pre> | It should be<br>return (ave);<br>and not<br>return (result); | return (ave);                                      |
| program09.c | <pre>main.c:25:21: error: expected ';' before 'printf' 25   result = aver (x,y)</pre>                  | Missing a semicolon(;  | result = aver (x,y) ;                              |
| program10.c | <pre>27   printf "The average is %lf.\n", result);</pre>   | Missing a bracket<br>after printf                            | printf ("The average is<br>%lf.\n", result);       |
| program11.c | <pre>aver (double x, double y)</pre>   | It should be n1, n2 and<br>not x,y                           | aver (double n1, double n2)                        |
| program12.c | <pre>20   scanf ("%2.2lf", &amp;x); 23   scanf ("%2.2lf", &amp;y);</pre>                               | There should not be<br>2.2 before the lf                     | scanf ("%lf", &x);<br>scanf ("%lf", &y);           |
| program13.c | <pre>main.c:25:11: error: too few arguments to function 'aver' 25   result = aver (x);</pre>           | Its missing ,y   | result = aver (x,y);                               |

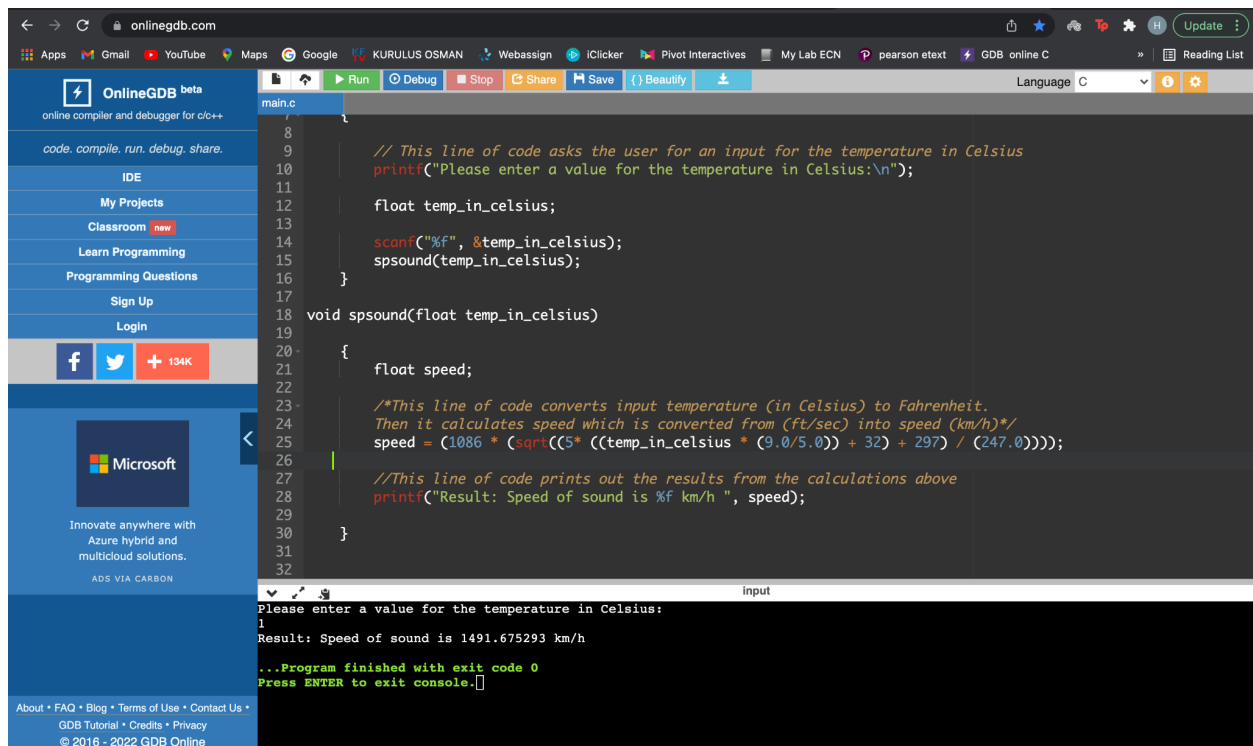
## Problem 2:



```
main.c
1 #include <stdio.h>
2 #include <math.h>
3
4 void spsound(float temp_in_celsius);
5
6 void main()
7 {
8
9     // This line of code asks the user for an input for the temperature in Celsius
10    printf("Please enter a value for the temperature in Celsius:\n");
11
12    float temp_in_celsius;
13
14    scanf("%f", &temp_in_celsius);
15    spsound(temp_in_celsius);
16 }
17
18 void spsound(float temp_in_celsius)
19 {
20
21     float speed;
22
23     /*This line of code converts input temperature (in Celsius) to Fahrenheit.
24     Then it calculates speed which is converted from (ft/sec) into speed (km/h)*/
25     speed = (1086 * (sqrt(5 * ((temp_in_celsius * (9.0/5.0)) + 32) + 297) / (247.0))));
26 }
27
28
29
30
31
32
```

input

Please enter a value for the temperature in Celsius:  
1  
Result: Speed of sound is 1491.675293 km/h  
...Program finished with exit code 0  
Press ENTER to exit console.



```
main.c
8
9     // This line of code asks the user for an input for the temperature in Celsius
10    printf("Please enter a value for the temperature in Celsius:\n");
11
12    float temp_in_celsius;
13
14    scanf("%f", &temp_in_celsius);
15    spsound(temp_in_celsius);
16 }
17
18 void spsound(float temp_in_celsius)
19 {
20
21     float speed;
22
23     /*This line of code converts input temperature (in Celsius) to Fahrenheit.
24     Then it calculates speed which is converted from (ft/sec) into speed (km/h)*/
25     speed = (1086 * (sqrt(5 * ((temp_in_celsius * (9.0/5.0)) + 32) + 297) / (247.0))));
26
27     //This line of code prints out the results from the calculations above
28     printf("Result: Speed of sound is %f km/h ", speed);
29 }
30
31
32
```

input

Please enter a value for the temperature in Celsius:  
1  
Result: Speed of sound is 1491.675293 km/h  
...Program finished with exit code 0  
Press ENTER to exit console.

**Pseudocode for problem 2:**

1. Start.
2. Request for the user's input.
3. Declaration of the variables.
4. Collect users input
5. Declare a variable for speed.
6. Convert the input temperature (in Celsius) to Fahrenheit to use the formula.
7. Use the formula given in the question to determine the speed.
8. Convert from (ft/sec) to (km/h) for speed.
9. Print results.
10. Stop!!

**Code for problem 2:**

```
#include <stdio.h>
```

```
#include <math.h>
```

```
void spsound(float temp_in_celsius);
```

```
void main()
```

```
{
```

```
    // This line of code asks the user for an input for the temperature in Celsius
    printf("Please enter a value for the temperature in Celsius:\n");
```

```
    float temp_in_celsius;
```

```
    scanf("%f", &temp_in_celsius);
```

```
    spsound(temp_in_celsius);
```

```
}
```

```
void spsound(float temp_in_celsius)
```

```
{
```

```
    float speed;
```

```
    /*This line of code converts input temperature (in Celsius) to Fahrenheit.
```

```
    Then it calculates speed which is converted from (ft/sec) into speed (km/h)*/
```

```
    speed = (1086 * (sqrt((5* ((temp_in_celsius * (9.0/5.0)) + 32) + 297) / (247.0)))));
```

```
    //This line of code prints out the results from the calculations above
```

```
    printf("Result: Speed of sound is %f km/h ", speed);
```

```
}
```

---

END OF LAB