

Test sheet 2

by Noah Cooper

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WORKSHEET 2 – TESTING (Tiles)

1. Original code:

```
#define _CRT_SECURE_NO_WARNINGS #include <stdio.h> #include <math.h> #include <ctype.h>
#include <stdlib.h> #include <string.h> #include <time.h> #include <Windows.h>

void main() { float wallX, wallY, tileacross, tileupwards, total;

printf("choose the width Meaurement of wall");
scanf("%f", &wallX);

while (wallX > 200 || wallX < 40) //who even wants 2 tiles?
{
    printf("Incorrect Data");
    printf("choose the width Meaurement of wall");
    scanf("%f", &wallX);
}
printf("choose the width Meaurement of wall");
scanf("%f", &wallY);

while (wallY > 200 || wallY < 40) //who even wants 2 tiles?
{
    printf("Incorrect Data");
    printf("choose the width Meaurement of wall");
    scanf("%f", &wallY);
}

tileacross = wallX / 20;
tileacross = ceil(tileacross); //rounds up
tileupwards = wallY / 20;
tileupwards = ceil(tileupwards); //rounds up
total = tileacross * tileupwards; //the ammount of tiles

printf("The minimum ammount of tiles would be %f", total);
```


2. Code Testing

For each test below (i – vii), run your code and enter the values provided. Provide a screenshot of the of what happened when the programme ran. Did the programme behave correctly or did it do something unexpected, and if so, why?

Input:

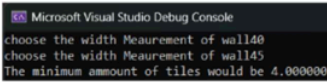
- i. Enter dimensions: Width 40 Length 45
- ii. Enter dimensions: Width 100000 Length 200000
- iii. Enter dimensions: Width -16 Length -20

Logic:

- iv. Enter dimensions: Width 80 Length 80. The result should be 16 tiles
- v. Enter dimensions: Width 40 Length 45. The result should be 6 tiles
- vi. Enter dimensions: Width 85 Length 90. The result should be 25 tiles.
- vii. Enter dimensions: Width 15 Length 15. The result should be 1 tile.

Note: If you decide to extend your program to allow a tile to be cut such that 2 pieces can be used from the same tile, your results may differ from the above. In this case, explain your logic as part of your answer)

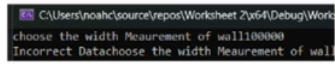
Fill in a box for each test above. You should present 7 separate boxes, 1 for each test. (Note: the first box is provided as a template)

Test i: Input - Enter dimensions: width 40 length 45
Screenshot(s) of output: 
Result: Did the programme behave as expected ie syntactically and logically correct? YES/NO (delete as appropriate) If NO, what went wrong? If YES, comment on what happened Yes it took the 2 numbers and made the correct calculations

Test: **Enter dimensions: Width 100000 Length 200000**

ii

Screenshot(s) of output:



```
C:\Users\nohc\source\repos\Worksheet 2\64\Debug\Worksheet 2.exe
choose the width Measurement of wall100000
Incorrect Datachoose the width Measurement of wall
```

Result: Did the programme behave as expected ie syntactically and logically correct?

YES/NO (delete as appropriate)

If NO, what went wrong?

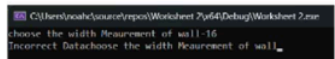
If YES, comment on what happened

It had what it was supposed to do by stopping the program to add sensible measurements only

Test: **Enter dimensions: Width -16 Length -20**

iii

Screenshot(s) of output:



```
C:\Users\nohc\source\repos\Worksheet 2\64\Debug\Worksheet 2.exe
choose the width Measurement of wall-16
Incorrect Datachoose the width Measurement of wall
```

Result: Did the programme behave as expected ie syntactically and logically correct?

YES/NO (delete as appropriate)

If NO, what went wrong?

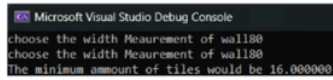
If YES, comment on what happened

It had what it was supposed to do by stopping the program to add sensible measurements only

Test: **Enter dimensions: Width 80 Length 80. The result should be 16 tiles**

iv

Screenshot(s) of output:



```
Microsoft Visual Studio Debug Console
choose the width Measurement of wall180
choose the width Measurement of wall180
The minimum amount of tiles would be 16.000000
```

Result: Did the programme behave as expected ie syntactically and logically correct?

YES/NO (delete as appropriate)

If NO, what went wrong?

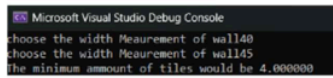
If YES, comment on what happened

It produced the right amount of tiles!

Test: Enter dimensions: Width 40 Length 45. The result should be 6 tiles

V

Screenshot(s) of output:



```
Microsoft Visual Studio Debug Console
choose the width Measurement of wall140
choose the width Measurement of wall145
The minimum amount of tiles would be 4.000000
```

Result: Did the programme behave as expected ie syntactically and logically correct?

YES/NO (delete as appropriate)

If NO, what went wrong?

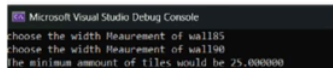
If YES, comment on what happened

It wasn't correct, I think I may have messed up the division in the code

Test: Enter dimensions: Width 85 Length 90. The result should be 25 tiles.

vi

Screenshot(s) of output:



```
Microsoft Visual Studio Debug Console
choose the width Measurement of wall185
choose the width Measurement of wall190
The minimum amount of tiles would be 25.000000
```

Result: Did the programme behave as expected ie syntactically and logically correct?

YES/NO (delete as appropriate)

If NO, what went wrong?

If YES, comment on what happened

The code worked perfectly well here, just want the code to be a single number and not 25.000000

Test: Enter dimensions: Width 15 Length 15. The result should be 1 tile.

vii

Screenshot(s) of output:

```
C:\Users\paul\source\repos\Worksheet 2\6\Debug\Worksheet 2.exe
Choose the width Measurement of wall15
Incorrect Datachoose the width Measurement of wall15
Incorrect Datachoose the width Measurement of wall15
Incorrect Datachoose the width Measurement of wall15
```

IF I USED 40 WHICH IS THE LOWEST I HAVE ON HERE TYPED

```
Incorrect Datachoose the width Measurement of wall40
Choose the width Measurement of wall40
The minimum amount of tiles would be 4.000000
```

Result: Did the programme behave as expected ie syntactically and logically correct?

YES/NO (delete as appropriate)

If NO, what went wrong?

If YES, comment on what happened

This did not work since the lowest the tile can go is 40 not 15 for me, however the code put out 4.000000 when i did the lowest values 40x40

3. Consider the results of the above tests and revisit your code in order to solve any problems discovered at the testing phase. (Note: you may not be able to solve all of them, but solve as many as you can.)

Paste your revised code here:

```
[Copy and paste your revised code here – note, do not use a screenshot]
#define _CRT_SECURE_NO_WARNINGS #include <stdio.h> #include <math.h> #include <stdlib.h>
#include <string.h>

void main() { int tileacross, tileupwards, total; float wallX, wallY;

printf("choose the width Meaurement of wall");
scanf("%f", &wallX);

while (wallX > 200 || wallX < 15) //who even wants 2 tiles?
{
    printf("Incorrect Data");
    printf("choose the width Meaurement of wall");
    scanf("%f", &wallX);
}
printf("choose the width Meaurement of wall");
scanf("%f", &wallY);

while (wallY > 200 || wallY < 15) //who even wants 2 tiles?
{
    printf("Incorrect Data");
    printf("choose the width Meaurement of wall");
    scanf("%f", &wallY);
}

tileacross = ceil(wallX / 20.0);
tileupwards = ceil(wallY / 20.0);
total = tileacross * tileupwards;

printf("The minimum ammount of tiles would be %d", total);

}
```

Test sheet 2

GRADEMARK REPORT

FINAL GRADE

8/0

GENERAL COMMENTS

WORKSHEET 2

Coding- Good, I can see you have corrected the error in the original code which was affecting one of the tests. You could also consider that where there is less than half a tile in the calculation, the other half could be utilised (as the pattern on this particular tile can be used in any direction) My bathroom wall is more than 200cm :) so consider a more reasonable upper limit, it's a bit on the short side!

4/5

Testing - Generally good, just tidy up your grammar so it's totally clear to the reader what you are trying to say. 4.5/5

Overall- 8.5/10

PAGE 1

PAGE 2

PAGE 3

PAGE 4

PAGE 5

PAGE 6

PAGE 7