

Practice S05P01: Pointers

http://www.comp.nus.edu.sg/~cs1010/4_misc/practice.html

Week of release: Week 5

Objective: Using pointers

(Note that pointers have not been covered in lecture yet. You may attempt this after the topic is covered.)

Task statement:

This is a simple exercise on using pointers. CodeCrunch, however, will not be able to tell if you have used pointers in your program or not.

Write a program **pointers.c** to read in a positive integer a and a positive real number b . As long as $a < b^2$, you repeatedly multiply a by b and assign the product back to a .

For example, if $a = 3$ and $b = 9.5$, then $a < b^2$ is true and hence a is updated to 28 (3×9.5 , and truncated to integer). Next, $a < b^2$ is still true so a is updated to 266 (28×9.5). Since $a < b^2$ is now false, the loop terminates with the value of 266 in a .

The skeleton program is given. You are to complete the program such that accesses to a and b are done only through their respective pointers a_ptr and b_ptr . The value of b is displayed in 2 decimal places. No other variables should be added in your program.

```
#include <stdio.h>

int main(void) {
    int a, *a_ptr;
    float b, *b_ptr;

    printf("Enter an integer: ");
    scanf("%d", &a);
    printf("Enter a real number: ");
    scanf("%f", &b);

    // fill in the code below

    return 0;
}
```

Sample run:

```
Enter an integer: 3
Enter a real number: 9.5
Values entered are 3 and 9.50
Final value of a = 266
```