C HEIGHT IN LIGHT YAERS

Bonus programming assignment 2 - Intro to Programming in C, Spring 2023

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Problem

1. Modify the program that converted three specific height values from meters to light-years to compute the light-year equivalent of any one height value in meters passed to the program as input.

   You can find the solution here.

2. Enter the three heights from the first program as test cases as **command line input**. To do this in Emacs, use the `:cmdline < input` header argument. The input file should only contain one number.

For example, if the `input` file contains Napoleon's height (1.67) in metres, the output would be: `A height of 1.67 m is equivalent to 1.77e-16 light-years`.

Submission

Submit your solution as an Emacs Org-mode file including the usual header information (title, author, pledged), in Canvas.

The solution should contain the output after the code block. It looks like this:

```
: A height of 1.80 m is equivalent to 1.9039e-16 light-years
```

Solution

Create `input` file for `scanf` with floating point value.

```
echo "1.67" > input
```

Declare variables, input value, compute and print result.

```
#include <stdio.h>
int main() {
    float  height_meters, light_years;
    printf("Enter your height in meters: ");
    scanf("%f", &height_meters);
    light_years = height_meters / 9.461e+15;
    printf("Your height in light years is: %g\n", light_years);
    return 0;
}
```