Falling

When an object begins falling due to Earth's gravity, the distance the object falls in a given time t can be found as

$$d = 1/2gt^2$$

where d is the distance in meters, g is the gravitational force ($9.81\,\mathrm{m/s}$), and t is the time in seconds.

Starting from the provided template file, write a function named `falling_distance` that accepts an object's falling time (in seconds) as an argument. This function should return the distance, in meters, that an object will fall in the given length of time. Then use your `falling_distance` function in the template's `main` function to create the table shown below using a loop. The loop should iterate through the time values 1 through 10, using your `falling_distance` function to calculate the falling distance for each time.

Test your program with the data in Table 1. Finally, format your program to match the sample terminal. Your output should exactly match the sample output, character for character, including all white space and punctuation. User input in the sample has been highlighted in Pappy's Purple to distinguish it from the program's output, but your user input does not need to be colored. Save your program as `falling.py` and submit it along with a screenshot showing a run of the program.

Output	
Time (s)	Distance (m)
1	4.91
2	19.62
3	44.15
4	78.48
5	122.62
6	176.58
7	240.34
8	313.92
9	397.31
10	490.50

Table 1: Falling distance test data.

Terminal

```
$ python falling.py
Time (s)  Distance (m)
----------------------
       1          4.91
       2         19.62
       3         44.15
       4         78.48
       5        122.62
       6        176.58
       7        240.34
       8        313.92
       9        397.31
      10        490.50
```