

A local biologist needs a program to predict population growth. The inputs would be:

The initial number of organisms, as an int

The rate of growth (a real number greater than 1), as a float

The number of hours it takes to achieve this rate, as an int

A number of hours during which the population grows, as an int

For example, one might start with a population of 500 organisms, a growth rate of 2, and a growth period to achieve this rate of 6 hours. Assuming that none of the organisms die, this would imply that this population would double in size every 6 hours. Thus, after allowing 6 hours for growth, we would have 1000 organisms, and after 12 hours, we would have 2000 organisms.

Write a program that takes these inputs and displays a prediction of the total population.

An example of the program input and output is shown below:

Enter the initial number of organisms: 10

Enter the rate of growth [a real number > 1]: 2

Enter the number of hours to achieve the rate of growth: 2

Enter the total hours of growth: 6

The total population is 80