Department of Computer Information Systems

APPALACHIAN STATE UNIVERSITY

Python – Loops

Assignment

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Create a program

A biologist needs a program to predict population growth. The inputs are:

1) The initial number of organisms, as an int
2) The rate of growth (a real number greater than 1), as a float
3) The number of hours it takes to achieve this rate, as an int
4) The number of hours during which the population grows, as an int

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

Example Scenario:

Starting 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.

Example of program run:

```
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
```