

Lesson 20 Coding Activity

Download the zipped .java starter files with the program templates, and use them in DrJava or an IDE of your choice, to get a head start on the activity.

Come to the forum with your questions and to share your test cases.

1. Computer science jobs are in demand. Right now we have a shortage of people that can do computer programming, and one of the fastest growing areas of new jobs in the sector are so-called hybrid jobs. This means you specialize in an area like biology, and then use computer programming to do your job.

These hybrid jobs exist in the arts, sciences, economics, healthcare, and entertainment fields.

One of these jobs is computational biology. Computational Biology, sometimes referred to as bioinformatics, is the science of using biological data to develop algorithms and relations among various biological systems.

In this lab we are going to investigate the data from a grey seal named Gracie. We'll input the longitude and latitude data from a tracking device. We want to investigate the farthest north, south, east and west Gracie has been.

We will use the latitude to measure this.

Write a program to enter Gracie's longitude and Latitude data. Each time through the loop it should ask if you want to continue. Enter 1 to repeat, 0 to stop.

Any value for latitude not between -90 and 90 inclusive should be ignored. Any value for longitude not between -180 and 180 inclusive should be ignored.

Sample Run:

```
Please enter the latitude:
41.678
Please enter the longitude:
69.938
Would you like to enter another location?
1
Please enter the latitude:
41.755
Please enter the longitude:
69.862
Would you like to enter another location?
1
Please enter the latitude:
41.829
Please enter the longitude:
69.947
Would you like to enter another location?
1
Please enter the latitude:
300
Please enter the longitude:
69.947
Incorrect Latitude or Longitude
Please enter the latitude:
41.827
Please enter the longitude:
69.904
Would you like to enter another location?
0
Farthest North: 41.829
Farthest South: 41.678
Farthest East: 69.947
Farthest West: 69.862
```