

## CSCI165 Computer Science II

### Discussion: Week Two

#### Scanner Issues with new lines

##### Objective:

- Understand the challenges the newline character presents to the Scanner object
- Read data from a file into correctly typed variables

##### Preparation:

- Read up on new line characters: <https://en.wikipedia.org/wiki/Newline>
- Thoroughly read and understand the document: *Input\_and\_Output.pdf*. Understand the challenges of reading and converting data of different type

You have been provided with a text file containing records of the following structure

- FirstName LastName: String (including spaces)
- Age: int
- Stonk: String (including spaces)
- Portfolio Value: double

Each one of the data items described above is stored on a single line in the file. There are multiple instances of these values, all with the exact same structure. Here is a sample of the first three records. This data describes a stonk holder, their age, the company, and their amount invested.

Your task is to read in the data from the file and display the following summary on a single line, using printf

- The name
- The age plus 1
- The interest they will earn after one year at %10 to two decimal places
- The stonk name

```
1 Barnabe Lugden
2 45
3 Boise Cascade, L.L.C.
4 93660.38
5 Ariela Calwell
6 39
7 PPL Corporation
8 84172.0
9 Carlota Kidston
10 30
11 Jabil Inc.
12 75158.66
```

```
$ java Solution
Barnabe Lugden will be 46 and earn $9366.04 in interest from Boise Cascade, L.L.C. after one year
Ariela Calwell will be 40 and earn $8417.20 in interest from PPL Corporation after one year
Carlota Kidston will be 31 and earn $7515.87 in interest from Jabil Inc. after one year
Kristien Blacklock Brown will be 27 and earn $7031.34 in interest from Exelon Corporation after one year
Maurise Fifoot Longbeard Sith will be 34 and earn $9902.30 in interest from Expeditors International of Washington, Inc. after one year
Allyn Ziem will be 37 and earn $8190.46 in interest from PowerShares Nasdaq Internet Portfolio after one year
Annisia Pawson will be 40 and earn $5833.28 in interest from Hailiang Education Group Inc. after one year
Brenna Praundlin Proudfoot will be 44 and earn $6270.31 in interest from Mercer International Inc. after one year
Joyous Champ Yon III will be 44 and earn $7948.41 in interest from First Financial Bankshares, Inc. after one year
Deeyn Loveday Pee Body Brown will be 26 and earn $9214.60 in interest from Pointer Telocation Ltd. after one year
```

**Challenges:** Using the Scanner class to read **and** convert the data from a file has some challenges

- The **next<Type>** methods skip leading whitespace and terminate at either trailing whitespace or a line terminator. If it encounters a line terminator it will leave the characters in the stream
- The **nextLine** method uses line terminating character(s) as a signal to ***stop reading***. This allows it to consume spaces in reading long text entries. If this method encounters a terminator before the data it is ***supposed*** to read, it will cease and return.