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CSCI260 – W03
Assignment #4

```java
1    import java.util.*;
2    public class challenge4 {
     Run | Debug
3        public static void main(String[] args) {
4            /*
5             * You have just started work at your first programming job and you have been offered a salary
6                plus benefits as part of your employment package. One of your benefits is the option to
7                contribute to a 401k or a 403b plan to save for retirement. Write a program using a Stack(s)
8                data structure that......
9
10               a. Captures the amount you wish to contribute each year
11               b. The percentage of interest that you think you will earn each year on average
12               c. A display of the earnings you will earn each year over a 30 year period from the most
13                  recent year back to the first year
14            */
15
16            //a
17            Scanner input = new Scanner(System.in);
18            System.out.println(x:"Enter the amount you wish to contribute each year: ");
19            double contribution = input.nextDouble();
20
21            //b
22            System.out.println(x:"Enter the percentage of interest that you think you will earn each year on average: ");
23            double interest = input.nextDouble();
24
25            //c
26            Stack<Double> earnings = new Stack<Double>();
27            double total = 0;
28            for(int i = 0; i < 30; i++) {
29                total += contribution;
30                earnings.push(total);
31                total += total * interest;
32            }
33
34            System.out.println(x:"Earnings: ");
35            for(int i = 0; i < 30; i++) {
36                System.out.println(earnings.pop());
37            }
38
39            System.out.println("Total Balance: " + total);
40
41
```

```
Enter the amount you wish to contribute each year:
19000
Enter the percentage of interest that you think you will earn each year on average:
0.06
Earnings:
1502105.5380891962
1399156.1680086756
1302034.1207629014
1210409.5478895295
1123971.2715938957
1042425.7279187695
965495.9697346882
892920.7261648001
824453.5152498115
759861.8068394448
698926.2328674007
641439.8423277366
587207.398422393
536044.7154928236
487778.03348379594
442243.4278149018
399286.2526555677
358760.6157127997
320528.88274792425
284461.2101395512
250435.10390523696
218335.00368418582
188051.89026809984
159482.915347264
132531.0522144
107104.76624
83117.704
60488.4
39140.0
19000.0
Total Balance: 1592231.870374548
```