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```
%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
% ENGR 133
% Program Description
%calculate the age of person when the balance finally exceeds $1
 million
%
% Assignment Information
%   Assignment:     Ma2 Task 6
%   Author:         Yolanda, chen3633@purdue.edu
%   Team ID:        LC1-15
%   Contributor:    Name, login@purdue [repeat for each]
%   My contributor(s) helped me:
%     [ ] understand the assignment expectations without
%         telling me how they will approach it.
%     [ ] understand different ways to think about a solution
%         without helping me plan my solution.
%     [ ] think through the meaning of a specific error or
%         bug present in my code without looking at my code.

%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
```

INITIALIZATION

```
%set the initial values like balance, year and age
balance = 0 ;
t = 0;
age = 25;
```

CALCULATIONS

use the while loop to calculate the totla amount after the year t increases by one because this is compounded annually

```
while balance < 1000000
    balance = balance +11000
    balance = balance + (balance*.02)
    t = t+1;

end
%because we want the age of the person after their bank account
 exceeds 1
%million we have to add the total number of years to their initial age
ageMil = t+age;


balance =

       11000


balance =

       11220


balance =

       22220


balance =

   2.2664e+04


balance =

   3.3664e+04


balance =

   3.4338e+04


balance =

   4.5338e+04


balance =

   4.6244e+04


balance =
```

```
   5.7244e+04

balance =

   5.8389e+04

balance =

   6.9389e+04

balance =

   7.0777e+04

balance =

   8.1777e+04

balance =

   8.3413e+04

balance =

   9.4413e+04

balance =

   9.6301e+04

balance =

   1.0730e+05

balance =

   1.0945e+05

balance =

   1.2045e+05

balance =
```

```
   1.2286e+05

balance =

   1.3386e+05

balance =

   1.3653e+05

balance =

   1.4753e+05

balance =

   1.5048e+05

balance =

   1.6148e+05

balance =

   1.6471e+05

balance =

   1.7571e+05

balance =

   1.7923e+05

balance =

   1.9023e+05

balance =

   1.9403e+05
```

```
balance =

   2.0503e+05

balance =

   2.0913e+05

balance =

   2.2013e+05

balance =

   2.2454e+05

balance =

   2.3554e+05

balance =

   2.4025e+05

balance =

   2.5125e+05

balance =

   2.5627e+05

balance =

   2.6727e+05

balance =

   2.7262e+05

balance =

   2.8362e+05
```

```
balance =

   2.8929e+05

balance =

   3.0029e+05

balance =

   3.0629e+05

balance =

   3.1729e+05

balance =

   3.2364e+05

balance =

   3.3464e+05

balance =

   3.4133e+05

balance =

   3.5233e+05

balance =

   3.5938e+05

balance =

   3.7038e+05

balance =

   3.7779e+05
```

```
balance =

   3.8879e+05

balance =

   3.9656e+05

balance =

   4.0756e+05

balance =

   4.1571e+05

balance =

   4.2671e+05

balance =

   4.3525e+05

balance =

   4.4625e+05

balance =

   4.5517e+05

balance =

   4.6617e+05

balance =

   4.7550e+05

balance =
```

```
   4.8650e+05

balance =

   4.9623e+05

balance =

   5.0723e+05

balance =

   5.1737e+05

balance =

   5.2837e+05

balance =

   5.3894e+05

balance =

   5.4994e+05

balance =

   5.6094e+05

balance =

   5.7194e+05

balance =

   5.8338e+05

balance =

   5.9438e+05

balance =
```

```
    6.0626e+05

balance =

    6.1726e+05

balance =

    6.2961e+05

balance =

    6.4061e+05

balance =

    6.5342e+05

balance =

    6.6442e+05

balance =

    6.7771e+05

balance =

    6.8871e+05

balance =

    7.0248e+05

balance =

    7.1348e+05

balance =

    7.2775e+05
```

```
balance =

   7.3875e+05

balance =

   7.5353e+05

balance =

   7.6453e+05

balance =

   7.7982e+05

balance =

   7.9082e+05

balance =

   8.0664e+05

balance =

   8.1764e+05

balance =

   8.3399e+05

balance =

   8.4499e+05

balance =

   8.6189e+05

balance =

   8.7289e+05
```

```
balance =

   8.9035e+05

balance =

   9.0135e+05

balance =

   9.1937e+05

balance =

   9.3037e+05

balance =

   9.4898e+05

balance =

   9.5998e+05

balance =

   9.7918e+05

balance =

   9.9018e+05

balance =

   1.0100e+06
```

OUTPUTS

```
%use fprinf to print the output
```

```
fprintf('The savings account would exceed $1 million after %.0f years
\n', ageMil)
```

```
The savings account would exceed $1 million after 77 years
```

ACADEMIC INTEGRITY STATEMENT

I have not used source code obtained from any other unauthorized source, either modified or unmodified. Neither have I provided access to my code to another. The project I am submitting is my own original work.

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