Peter Kirkpatrick

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CS 110 Assignment 3

Question # 2b: Deposit Maturity

**Problem Definition**

Write a GUI program to compute the amount of a certificate of deposit on maturity.

**Problem Analysis**

-Inputs

* amount deposited, (amt)
* years, (yrs)
* interest rate, (rate)

-Outputs

* amount of certificate of deposit on maturity, (depMat)

-Relate I/O

* depMat = amt \* (1 + rate / 100) ^ yrs

-Other Constraints

* must use GUI

**Algorithm Design**

-Get Inputs

-Process Inputs

-Display Outputs

**Step-Wise Refinement**

-Get Inputs

* amount deposited, (amt)
* years, (yrs)
* interest rate, (rate)

-Process Inputs

* Determine the amount of a certificate of deposit on maturity
  + depMat = amt \* (1 + rate / 100) ^ yrs

-Display Outputs

* amount of certificate of deposit on maturity, (depMat)

-Desk Checking

Assumed Inputs:

Amount deposited = 80000.00 2000000.00

Years = 15 32

Interest rate = 7.75 10

depMat = 80000.00 \* (1 + 7.75 / 100) ^ 15 = 245103.31

depMat = 2000000.00 \* (1 + 10 / 100) ^ 32 = 42227553.49