Richard Hayes Crowley

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CSC\_157\_Lab\_04

**SOURCE CODE:**

*# Richard Hayes Crowley*

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print("Richard Hayes Crowley\nCSC\_157\_LAB\_04\n")

print("~\*~\*~\*~ Interest Calculator ~\*~\*~\*~")

bankBalance = 0.0

interestRate = 0.0

auth = False

*# In a real world application, the pin number would be stored as a hashed value in a secure database on a secure server with strict origin access control, accessible via API.*

pinNumber = 1234

attempts = 3

*# using a while loop to catch exceptions and continue asking for user input if user mistakenly enters something the interpeter cannot parse as Int*

*while* True:

*try*:

userInput = int(input("Please enter your four-digit PIN: "))

*except* ValueError:

print("Please enter a four digit number.")

*continue*

*if* userInput == pinNumber:

auth = True

*break*

*elif* attempts > 1:

attempts -= 1

print("Wrong PIN, please try again.")

*else*:

attempts -= 1

*break*

*if*(auth):

*while* True:

*try*:

bankBalance = float(input("Enter an initial bank balance: "))

interestRate = float(

input("Enter annual interest rate (as a decimal): "))

*break*

*except* ValueError:

print(

"Please enter a number for initial bank balance and annual interest rate.")

*for* month *in* range(12):

interest = bankBalance \* (interestRate / 12)

bankBalance += interest

print(f"Month {month+1} end balance: ${round(bankBalance,2)}")

print("Goodbye!")

*else*:

print("Too many authentication attempts, please try again later.")

**OUTPUT**Text

Description automatically generated