Program Development Plan

Book Buying Program:

1. Problem Definition: Develop a program that collects data about book purchases and calculates the average spent by a user.
2. Problem Analysis: Using numeric variables, input, loop, and calculations. Create input values for the number of books and the price of each book. Then calculate the total and average costs. Finally, print output information for the total and average.
3. Program Algorithm:

* Initialize variables for the number of books being purchased, the price, the total, and the average cost.
* Ask the user to input the number of books being purchased.
* Create a loop that collects the price of each book and accumulates the total.
* After the loop, calculate the average book price.
* Display the total and average cost using informational formatting.

1. Program Code and Test:

#Author: Andy Chrastek

#Program: BookBuy.py

#Description: This program asks the user for the number of books being purchased and

# the price of each book.

# It then displays the total cost of the books and the average book price.

# Initialize variables to the appropriate data type

total = 0.0

average = 0.0

bookCount = 1

books = 0

# Display a heading

print("Andy's Book Buy program \n -------------------")

# Input: Ask the user for the number of books and then the cost of each

books = int(input("How many books are you buying? "))

# Loop through input, process, output for each book

while bookCount <= books :

price = float(input("Enter price of book %d:$ " % bookCount))

total = total + price

bookCount = bookCount + 1

# Calculate the average book price.

average = total / books

# Display informational output

print("\nTogether the %d books cost $%5.2f" % (books, total))

print("The average price per book is $%3.2f" % average)

1. Program test output: \*\*\* TAKE A SCREEN SHOT OF THE OUTPUT IN THE SHELL \*\*\*

RESTART: /Users - Minneapolis Community and Technical College /Python/Andy/BookBuy.py

Andy's Book Buy program

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How many books are you buying? 5

Enter price of book 1:$ 1.34

Enter price of book 2:$ 2

Enter price of book 3:$ 90.90

Enter price of book 4:$ 5

Enter price of book 5:$ 10

Together the 5 books cost $109.24

The average price per book is $21.85

1. Maintenance: this phase of the program life cycle is where bugs are listed, before being fixed. Also, the programmer can list changes to make the code better in some way. Also, enhancements may be requested by the user and listed here for review.

This program works as requested.

Program Code ToDo list:

Change total to totalCost

Change average to averageBookPrice