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# Quest Phones Profit Calculator - CPRG216 Assignment Programming Strategies

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# This program finds the total profit for quest phones for a given time period.

# The user will enter a time period and then the quantity sold for each product

# for each day in the time period. The program will then calculate the total

# profit for the time period. Lastly, the program the tell the user if the total

# profit achieved the daily profit goal.

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# The price of one unit in each category

CATEGORY1 = 127.68

CATEGORY2 = 105.47

CATEGORY3 = 80.23

CATEGORY4 = 69.67

CATEGORY5 = 54.57

# The days of the week

WEEK = ["Sun", "Mon", "Tue", "Wed", "Thu", "Fri", "Sat"]

# The daily profit goal

DAILY\_PROFIT = 10000.00

# The program runs until the user picks the exit option and then displays that the program ended successfully

exit = False

while not exit:

# Displays the time period options

print("Quest Phones Profit Calculator\n")

print(f'{"Option":>8} Time Period')

print(f'{"1":>8} Single Day')

print(f'{"2":>8} Entire Week')

print(f'{"3":>8} Only Weekdays: Mon-Fri')

print(f'{"4":>8} Only Weekend Days: Sun & Sat')

print(f'{"0":>8} Exit')

# Asks user to enter their option and checks that it is a valid input

option = input("Enter menu option: ")

# Creates a list of the days the user has chosen

days = []

if not option.isdigit():

print("Invalid menu selection... Try again\n")

elif int(option) == 1:

# If the user picks option 1 "Single Day", it asks the user to enter a day of the week and checks that it is a valid input

while len(days) == 0:

possibleDay = input("Enter a specific day [Sun, Mon, Tue, Wed, Thu, Fri, Sat]: ").capitalize()

for day in WEEK:

if possibleDay == day:

days.append(possibleDay)

optionPicked = day

elif int(option) == 2:

days = WEEK

optionPicked = "Entire Week"

elif int(option) == 3:

days = WEEK[1:6]

optionPicked = "Only Weekdays: Mon-Fri"

elif int(option) == 4:

days = WEEK[::6]

optionPicked = "Only Weekend Days: Sun & Sat"

elif int(option) == 0:

exit = True

else:

print("Invalid menu selection... Try again\n")

# Begins total profit calculations if the user has picked a valid time period

if len(days) > 0:

totalProfit = 0

# Gets the profit from each day

for day in days:

print("For", day)

next = False

dayProfit = 0.00

# The user adds the quantity sold of each product for the day until they exit

while not next:

# Asks user to enter a product number and checks that it is a valid input

category = input("Enter product number (1-5 or 0 to stop): ")

if not category.isdigit():

print("Product number must be between 1 and 5 or 0 to exit... Try Again")

else:

if int(category) > 0 and int(category) <= 5:

quantityIsDigit = False

# Asks the user to enter the quantity sold and checks that it is a valid input

while not quantityIsDigit:

quantity = input("Enter quantity sold: ")

if quantity.isdigit():

quantityIsDigit = True

# Adds to the days profit based on the product number and quantity sold

if int(category) == 1:

dayProfit += int(quantity) \* CATEGORY1

elif int(category) == 2:

dayProfit += int(quantity) \* CATEGORY2

elif int(category) == 3:

dayProfit += int(quantity) \* CATEGORY3

elif int(category) == 4:

dayProfit += int(quantity) \* CATEGORY4

elif int(category) == 5:

dayProfit += int(quantity) \* CATEGORY5

elif int(category) == 0:

next = True

else:

print("Product number must be between 1 and 5 or 0 to exit... Try Again")

totalProfit += dayProfit

# Displays the total profit for the time period

print("\nTotal Profit for the ", optionPicked, " is: $", format(totalProfit, ',.2f'), sep='')

# Calculates and displays if the daily profit goal was met

if totalProfit > len(days) \* DAILY\_PROFIT:

print("Successfully achieved daily profit goal of $", format(DAILY\_PROFIT, ',.2f'), '/day for option "', optionPicked, '"\n', sep='')

else:

print("Did not achieved daily profit goal of $", format(DAILY\_PROFIT, ',.2f'), '/day for option "', optionPicked, '"\n', sep='')

print("Program ended successfuly")