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"""
Main file for my Integration Project, a personal finance budgeting program.
"""
__author__ = "Joshua Penn"

print("Welcome to Josh's Python Integration Project.")
name = input("May I have your name, please? ")
print("Hi,", name.capitalize() + "!")
print("The purpose of this program is to assist you in budgeting your personal"
      " finances. Does that interest you?")
response = input("Please respond to the question with YES or NO :\n")

# I found out how to use 'if statement with strings' from the following
# stackoverflow website:
# www.stackoverflow.com/questions/6762959/if-statement-for-strings-in-python

# Using if, elif, and else statements, seek users desire to participate
# in this Python program. If user is not interested, program exits.
if response.lower() in ['yes']:
    print("Awesome! I'm glad you're interested!\n")
elif response.lower() in ['no']:
    print("That's too bad. Perhaps another time then. This program will now "
          "exit.")
    exit()
elif response.lower():
    print("Please try again.")
    response = input("Enter YES or NO :\n")
    if response.lower() in ['yes']:
        print("Great!")
    else:
        print("Thanks for stopping by. Try again later.")
        exit()

# This section collects data from user, assigning it to variables.
print("Please note: For all entries, please enter whole dollar amounts only"
      "--NO DECIMALS--and do not use commas.")
print("If any entry doesn't apply to you, just enter 0.\n")
print("First, you'll need to input you monthly income.\n")
income = int(input("How much do you earn each month? : "))
bonus = int(input("If you earn a yearly bonus, how much is it?"))
income += bonus / 12
rent = int(input("\nNext, please enter your monthly rent expense "
                 "amount: "))

# If statement looks at rent value and prints suggestions based on $ amount.
if rent <= 500:
    print("\nWow! Great job on finding inexpensive rent!!")

# If statement that calculates whether rent is more than 30% of income,
# then makes comments, accordingly.
if rent / income > .30:
    print("\nFYI: Your rent payment is greater than 30% of your gross monthly"
          " income.")
    print("This is something that lenders take into consideration when "
          "applying for credit.")

car = int(input("\nCar payment amount: "))

# If statement that looks at car payment amount and prints comments.
if car == 0:
    print("\n   ~~~~Awesome!!~~~~ :-)")
print("\nFor insurance, please combine all insurance costs--health and auto, "
      "for example.")

# Assign user input to new variables regarding expenses.
insurance = int(input("How much are your monthly insurance expenses?: "))
gas = int(input("\nNow, approximate how much you spend on fuel for your car "
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                "each month: "))
food = int(input("\nUp next, food. How much do you spend on food each "
                 "month?: "))
cell = int(input("\nWhat about cell phone/service each month?: "))

# Now the provided data will be used to calculate expenses.
print("\nGood job! Now, let's take a look at what you entered.")
print("\nYour average monthly income (including your annual bonus) is "
      "$", format(income, ".2f"))

# Calculates total expenses by adding value of stored variables.
total_expenses = (rent + car + insurance + gas + food + cell)
print("Your total monthly expenses are $", total_expenses)
proceed = input("\nPress the ENTER key to continue...")

# Calculate and display monthly net income.
print("\nNext, we'll calculate your net income. Net income is the difference "
      "between your income and expenses.")
print("Another way to look at it, is that it's how much money you have left "
      "after paying your expenses.")
net_income = (income - total_expenses)
print("Your average monthly net income is $", format(net_income, ".2f"))
print("\nNow that you know your net income, you have an idea about how much "
      "you money you have available each month.")
print("Let's take it a bit further though and see what your average available "
      "net income is each week,")
print("as that will make it easier for you to budget successfully.\n")

# Calculate and display weekly net income.
weekly_net_income = (net_income * 12 / 52)
print("\nTo do this calculation, we take your monthly net income and multiple "
      "it by 12 (months in the year),")
print("then divide that number by 52 (weeks in the year).")
print("The result: your available weekly net income is $",
      format(weekly_net_income, ".2f"))
print("\nHopefully this helps you out. Knowing how much money you have free to"
      " spend can keep you out of trouble!")

# Inquires about regular savings account deposits and 401k
print("\nWhile calculating net income, we didn't consider whether you're "
      "regularly saving or have a 401k.")
savings_d = int(input("\nPlease enter average deposit amount to savings: "))
savings_f = int(input("How many times per year are you making this deposit "
                      "amount? "))
retirement = int(input("\nNext, how much are you paying into a 401k each "
                       "year, on average, if any? "))

# Calculates annual savings based on user inputs.
savings_annual = savings_d * savings_f
print("\nLet's take this new info and recalculate your net income.")

# Recalculates net income based on additional expenses and savings deduction.
new_net = net_income - total_expenses - (savings_annual / 12) - \
          (retirement / 12)
print("After accounting for your savings and 401k, your new net income is "
      "$" + format(new_net, ".2f") + ".")

# Calculates average annual savings.
print("\nYou've said that you deposit an average of "
      "$" + str(savings_d) + " " + str(savings_f) + " times per year,")
print(
    "that brings your average annual savings to $" + str(savings_annual) + ".")

# If and else statement that comments on savings habit of user.
if savings_annual > 0:
    print("\nGood job on saving up some money!")
else:
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    print("Saving can be hard. Setting aside a couple dollars each month would"
          " be a great start.\n")


# Function definition which calculates savings
def calculate_savings(annual):
    """
    Takes user input of desired savings amount and calculates monthly savings
    needed to reach that amount, storing it in monthly_s variable. Then
    utilizing a while loop, compares entered annual amount against a value of
    $120. If the user has suggested they want to save less than $120
    annually, they are prompted to try again. Once entered value satisfies
    the while loop, the calculated monthly_s variable is returned to the
    calling function.
    """
    monthly_s = int(annual / 12)
    while annual < 120:
        annual = int(input("You can do better than that! Try again, and have "
                           "faith in yourself! :"))
    return monthly_s


# Function definition which calls to calculate_savings function
def main():
    """
    Asks user how much they would like to save in one year,
    and assigns that $ amount to savings_wanted variable. The
    savings_need variable then calls calculate_savings to find out the $
    amount needed each month to reach that goal. The integer
    value of savings_needed is then printed.
    """
    savings_wanted = int(input("\nHow much would more you like to save over "
                               "the next year? "))
    savings_needed = calculate_savings(savings_wanted)
    print("To save that much, you need to save an average of $" +
          format(savings_needed, ".2f") + " each month.")


print("Whether you've saved or not, now is the time to make further "
      "effort--it's never too late.")

# Call to main function
main()

print("\nYou've said that you're paying "
      "$" + str(retirement) + " toward a retirement plan each year.")

# If and else statement commenting on retirement savings of user.
if retirement > 0:
    print("Great job preparing for the future!")
else:
    print("Understandably, paying into a retirement account can be burdensome "
          "on finances. Good luck to you.")

print("\nWhat we haven't considered yet is your miscellaneous expenses "
      "(e.g., gym memberships or Netflix subscription).")

# Requests monthly misc. expenses amount, then calculates total annual expense.
misc_exp = int(input("What are your average, normal monthly expenses on these "
                     "types of items? "))
misc_annual = misc_exp * 12
print("That makes your average annual expenditure on miscellaneous items $"
      + format(misc_annual, ".2f") + ".")

print("\nKnowing what the costs of your miscellaneous expenses are, perhaps "
      "you can reevaluate your spending habits, ")
print("and consider shifting some of that spending toward savings.")
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print("\nThanks for taking the time to use Josh's program. Hopefully you "
      "found it helpful.\n")

# For loop that prints each element of the list on a separate line.
salutation = ["  T h a n k s", "     f o r", "s t o p p i n g", "     b y !"]
for goodbye in range(len(salutation)):
    print(salutation[goodbye])
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