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Section: COMP 248 Section R – Fall 2024

Assignment 2 – Algorithms for Questions 1 and 2

Question 1: Fall Adventure Weather Planner:

Input:

- Temperature `temp`
- Weather condition `storedString` (Sunny, Rainy, Snowy)

Output:

Recommended clothing and safety tips based on the weather and temperature

1. **Start**
2. Display "Welcome to the Fall Adventure Weather Planner. Let's get started!"
3. Prompt the user to input a value for the temperature:

`temp = user input`

4. Prompt the user to input the weather condition (Sunny, Rainy, Snowy):

`storedString = user input`

5. **If** `storedString` is "snowy":
   a. Display "Recommended Clothing: Heavy Winter Clothing"
   b. Display "Stay warm and watch out for Icy Conditions."

6. **Else if** `storedString` is "rainy":
   a. Display "Recommended Clothing: Waterproof Clothing"
   b. Display "Safety tip: Be cautious of slippery paths!"

7. **Else if** `storedString` is "sunny":
   a. **If** `temp > 20`:
      i. Display "Recommended clothing: Light Clothing (e.g., shorts, T-shirt, tank tops)."
   b. **Else if** `10 <= temp <= 20`:
      i. Display "Recommended Clothing: Light Jacket or Hoodie."
   c. **Else if** `temp < 10`:
      i. Display "Recommended Clothing: Warm and thicker clothing with a Jacket."

d. Display "Safety tip: Don't forget to wear sunscreen and stay hydrated!"
8. Display "Thank you for using the Fall Weather Planner Program, have yourself a great day :)"
9. **End**

Question 2: Montreal Currency Exchange:

Input:

- Choice to buy (B) or sell (S) foreign currency
- Foreign currency type (`currencyType`)
- Amount of foreign currency to buy/sell or CAD to receive

Output:

Total CAD to spend for buying currency or foreign currency to sell for receiving a specific CAD amount

1. **Start**
2. Display "Welcome to the Montreal Currency Exchange!"
3. Prompt the user: "Do you want to buy foreign Currency (B) or Sell foreign currency (S)?"
   a. `choice = user input`
   b.
4. **If** `choice` is "B" (case insensitive):
   a. Prompt the user: "Enter the Currency you want to buy (USD, EUR, GBP, JPY, AUD)"
      i. `currencyType = user input`
   b. Convert `currencyType` to lowercase.
   c. **Switch** on `currencyType`:
      i. **Case "usd"**:
         1. Prompt "Enter the amount of USD to buy"
         2. `purchasing = user input`
         3. Calculate `amount = purchasing * 1.30`
         4. Display: "You need to spend `amount` CAD to receive `purchasing` USD"

      ii. **Case "eur"**:

1. Prompt "Enter the amount of EUR to buy"
2. `purchasing = user input`
3. Calculate `amount = purchasing * 1.55`
4. Display: "You need to spend `amount` CAD to receive `purchasing` EUR"

      iii. **Case "gbp"**:

1. Prompt "Enter the amount of GBP to buy"
2. `purchasing = user input`
3. Calculate `amount = purchasing * 1.80`
4. Display: "You need to spend `amount` CAD to receive `purchasing` GBP"

      iv. **Case "jpy"**:

1. Prompt "Enter the amount of JPY to buy"
2. `purchasing = user input`
3. Calculate `amount = purchasing * 0.0012`
4. Display: "You need to spend `amount` CAD to receive `purchasing` JPY"

      v. **Case "aud"**:

1. Prompt "Enter the amount of AUD to buy"
2. `purchasing = user input`
3. Calculate `amount = purchasing * 1.00`
4. Display: "You need to spend `amount` CAD to receive `purchasing` AUD"

d. Display: "Thank you for using the Canadian Currency Exchange Program."

5. **Else if** `choice` is "S":

a. Prompt "Enter the CAD amount you would like to receive"
    i. `receive = user input`
b. Prompt: "Enter the target currency to sell (USD, EUR, GBP, JPY, AUD)"
    i. `currencyType = user input`
c. Convert `currencyType` to lowercase.
d. **Switch** on `currencyType`:
    i. **Case "usd"**:

1. Calculate amount = receive / 1.25
2. Display: "You need to spend amount USD to receive receive CAD"

  ii. **Case "eur"**:
1. Calculate amount = receive / 1.50
2. Display: "You need to spend amount EUR to receive receive CAD"

  iii. **Case "gbp"**:
1. Calculate amount = receive / 1.75
2. Display: "You need to spend amount GBP to receive receive CAD"

  iv. **Case "jpy"**:
1. Calculate amount = receive / 0.01
2. Display: "You need to spend amount JPY to receive receive CAD"

  v. **Case "aud"**:
1. Calculate amount = receive / 0.95
2. Display: "You need to spend amount AUD to receive receive CAD"

 e. Display: "Thank you for using the Canadian Currency Exchange Program."

6. **Else**:
 a. Display: "The input is INVALID. Please restart the program."

7. **End**