Practice Chained Conditionals

Directions: Write your Python code on Replit and then copy/paste your code here

1. Determine if a number is divisible by 2, 3, both, or neither. Pay attention to the order of the conditions (if, elif, else).

```
number = 12

if number%2 == 0 and number%3 == 0:
    print(number, "is divisible by 2 and 3")
elif number%2 == 0:
    print(number, "is divisible by 2")
elif number%3 == 0:
    print(number, "is divisible by 3")
else:
    print(number, "is not divisible by 2 or 3")
```

Output:
12 is divisible by 2 and 3

2. A movie theater has three price categories. If the client is 3 or under, the ticket is free, if the age of the customer is between 4, and 65 the price is $20 and if the customer is older than 65 the price is $15. Write a program to determine how much a customer should pay based on age.

```
age = 16

if age <= 3:
    print("Your ticket is free")
elif age >= 4 and age <= 65:
    print("Your ticket costs $20")
else:
    print("Your ticket costs $15")
```

Output:
Your ticket costs $20

3. Given the score on an exam, assign it the proper letter grade (A = 100 - 90, B = 89 - 80, C = 79 - 70, D = 69 - 60, F = Below 60). Print the results as ___% = ___. Fill in the first blank with the score and the second blank with the letter grade.

```
score = 90

if score >= 90:
    print(score, "% = A")
elif score <= 89 and score >= 80:
    print(score, "% = B")
elif score <= 79 and score >= 70:
    print(score, "% = C")
elif score <= 69 and score >= 60:
    print(score, "% = D")
else:
    print(score, "% = F")
```

Output:
90 % = A

4. Write code to help you pick food based on the part of the day. Consider two variables, one for part of the day (morning or night) and one if you are hungry (yes or no). If you are hungry in the morning, your code should tell you, “Eat a bagel”. If it is morning and you are not hungry, it should tell you to “Eat an apple”. If it is night and you are hungry, it should tell you “Eat pizza”. If it is night and you are not hungry, it should tell you “Do not eat anything”.

```
part_day = "night"
hungry = True

if part_day == "morning" and hungry:
  print("Eat a bagel")
elif part_day == "morning" and not hungry:
  print("Eat an apple")
elif part_day == "night" and hungry:
  print("Eat pizza")
elif part_day == "night" and not hungry:
  print("Do not eat anything")
```

Output:
Eat pizza

Practice Nested Conditionals

5. Given an integer number, indicate if it is positive or negative. If it is positive, determine if it is even or odd.

```
number = 4

if number >= 0:
    print(number, "is positive")
    if number % 2 == 0:
        print(number, "is even")
    else:
        print(number, "is odd")
else:
    print(number, "is negative")
```

Output:
4 is positive
4 is even

6. Write a program that evaluates a person's age. If the person is 18 and under, the program should indicate that the person is a child; otherwise, the person is an adult. If it is a child, consider the following categories: infant (under 1 year); toddler (ages 1–2 years); preschooler (ages 3–6 years); school-aged child (ages 7–12 years); adolescent (ages 13–18 years). If it is an adult, indicate if it is a senior (65 and older)

```
age = 15

if age <= 18:
    print("Age", age, ": The person is a child")
    if age < 1:
        print("Age", age, ": The person is an infant")
    elif age >= 1 and age <= 2:
        print("Age", age, ": The person is a toddler")
    elif age >= 3 and age <= 6:
        print("Age", age, ": The person is a preschooler")
    elif age >= 7 and age <= 12:
        print("Age", age, ": The person is a school-aged child")
    else:
        print("Age", age, ": The person is an adolescent")
else:
```

```
    print("Age", age, ": The person is an adult")
    if age >= 65:
        print("Age", age, ": The person is a senior")
```

Output:
Age 15 : The person is a child
Age 15 : The person is an adolescent

7. A restaurant is offering a lunch menu. The customers can choose a burger or salad. If they choose a burger, the cost is $15; if the customer adds cheese, it is $2 extra. If they choose a salad, the cost is $12, and the customer can add chicken for $4, steak for $6, or shrimp for $5. Write a program with the choices made by a customer and calculate the bill for the lunch order.

```
food = "salad"
extra = "chicken" # Assign None if you do not want to add anything to your food

if food == "burger":
    price = 15
    print("Buger:", price)
    if extra == "cheese":
        print("Add cheese:", 2)
        price += 2
elif food == "salad":
    price = 12
    print("Salad: ", price)
    if extra == "chicken":
        print("Add chicken:", 4)
        price += 4
    elif extra == "steak":
        print("Add steak:", 6)
        price += 6
    elif extra == "shrimp":
        print("Add shrimp:", 5)
        price += 5

print("Total:", price)
```

Output:
Salad: 12
Add chicken: 4
Total: 16

8. Write a program to determine if a year is a leap year.
   Remember: Leap years are any year that can be evenly divided by 4. A year that is evenly divisible by 100 is a leap year only if it is also evenly divisible by 400.

```
year = 1900

if year % 4 == 0:
    if year % 100 == 0:
        if year % 400 == 0:
            print(year, "is a leap year")
        else:
            print(year, "is not a leap year")
    else:
        print(year, "is a leap year")
else:
    print(year, "is not a leap year")
```

Output:
1900 is not a leap year