Day 3 for python

Archive	☐
Projects	🎴 100 Days of Code: The Complete Python Pro Bootcamp for 2023
URL	https://www.udemy.com/course/100-days-of-code/

▼ if/else Conditional statements

```
if condition:
 do this
else:
 do this

Example:
if water_level>50:
 print("Drain Water")
else:
 print("continue")
```

Comparison operators:

operator	Meaning
>	Greater than
<	Less than
≥	Greater than or equal to
≤	less than or equal to
==	Equal to

```
#Write a program that works out whether if a given number is an odd or even number.
# 🚨 Don't change the code below 👇
number = int(input("Which number do you want to check? "))
# 🚨 Don't change the code above 👆

#Write your code below this line 👇
if number % 2 == 0:                     #if we don't get reminder, it will be an even, else odd
    print("This is an even number.")
else:
    print("This is an odd number.")
```

Nested if/else statements:

```
if condition:
    if another condition:
       do this
    else:
       do this
else:
 do this
```

```
print("Welcome to the rollercoaster!")
height = int(input("What is your height in cm? "))
if height >= 120:
  age = int(input("Enter your age "))
  if age <= 18:
    print("you have to pay 10$")
  else:
    print("you have to pay 15$")
else:
  print("sorry, You can't ride")

o/p:
Welcome to the rollercoaster!
What is your height in cm? 125
Enter your age 17
you have to pay 10$
```

---

if /elif /else

```
if condition 1:
  do A
elif condition 2:
  do B
else:
  do this
```

```
print("Welcome to the rollercoaster!")
height = int(input("What is your height in cm? "))
if height >= 120:
  age = int(input("Enter your age "))
  if age <12:
    print("you have to pay 5$")
  elif age <= 18:
    print("you have to pay 10$")
  else:
    print("you have to pay 15$")
else:
  print("sorry, You can't ride")

o/p:
Welcome to the rollercoaster!
What is your height in cm? 126
Enter your age 15
you have to pay 10$
```

▼ Challenge - BMI 2.0 calculator

```
Instructions
Write a program that interprets the Body Mass Index (BMI) based on a user's weight and height.

It should tell them the interpretation of their BMI based on the BMI value.
```

```
Under 18.5 they are underweight
Over 18.5 but below 25 they have a normal weight
Over 25 but below 30 they are slightly overweight
Over 30 but below 35 they are obese
Above 35 they are clinically obese.
------------------------------------------------------------------------------------------------------------------------------------------------------
```

```
# 🚨 Don't change the code below 👇
height = float(input("enter your height in m: "))
weight = float(input("enter your weight in kg: "))
# 🚨 Don't change the code above 👆

#Write your code below this line 👇
bmi = float(weight) / (float(height)**2)
rounded_bmi = round(bmi)

if (rounded_bmi < 18.5):
    print(f"Your BMI is {rounded_bmi}, you are underweight.")
elif (rounded_bmi < 25):
    print(f"Your BMI is {rounded_bmi}, you have a normal weight.")
elif (rounded_bmi < 30):
    print(f"Your BMI is {rounded_bmi}, you are slightly overweight.")
elif (rounded_bmi < 35):
    print(f"Your BMI is {rounded_bmi}, you are obese.")
else:
    print(f"Your BMI is {rounded_bmi}, you are clinically obese.")
```

```
Output:
enter your height in m: 1.86
enter your weight in kg: 98
Your BMI is 28, you are slightly overweight.
```

▼ challenge - Find leap year:

```
Instructions
Write a program that works out whether if a given year is a leap year.
A normal year has 365 days, leap years have 366, with an extra day in February.
The reason why we have leap years is really fascinating, this video does it more
justice:

https://www.youtube.com/watch?v=xX96xng7sAE

This is how you work out whether if a particular year is a leap year.

on every year that is evenly divisible by 4

**except** every year that is evenly divisible by 100

**unless** the year is also evenly divisible by 400
```

```
if year % 4 == 0:
  if year % 100 == 0:
    if year % 400 == 0:
      print("Leap year")
    else:
      print("Not leap Lear.")
  else:
    print("Leap Year.")
else:
  print("Not Leap year")
```

output:

```
Which year do you want to check? 1900
Not leap year.
```

▼ Multiple If's

if condition 1:

do A

if condition 2:

do B

if condition 3:

do C

challenge - Pizza order Practice

```
Instructions
Congratulations, you've got a job at Python Pizza. Your first job is to build an
automatic pizza order program.

Based on a user's order, work out their final bill.

Small Pizza: $15

Medium Pizza: $20

Large Pizza: $25

Pepperoni for Small Pizza: +$2

Pepperoni for Medium or Large Pizza: +$3

Extra cheese for any size pizza: + $1
```

```
output:
Welcome to Python Pizza Deliveries!
What size pizza do you want? S, M, or L L
Do you want pepperoni? Y or N N
Do you want extra cheese? Y or N Y
Your final bill is: $26.
```

```
# 🚨 Don't change the code below 👇
print("Welcome to Python Pizza Deliveries!")
size = input("What size pizza do you want? S, M, or L ")
add_pepperoni = input("Do you want pepperoni? Y or N ")
extra_cheese = input("Do you want extra cheese? Y or N ")
# 🚨 Don't change the code above 👆

#Write your code below this line 👇
bill = 0

if(size == "S"):
    bill = bill + 15
    if (add_pepperoni == "Y"):
        bill = bill + 2
elif(size == "M"):
    bill = bill + 20
    if (add_pepperoni == "Y"):
        bill = bill + 3
elif(size == "L"):
    bill = bill + 25
    if (add_pepperoni == "Y"):
        bill = bill + 3
if (extra_cheese == "Y"):
    bill = bill + 1

print(f"Your final bill is: ${bill}.")
```

▼ Logical operators

A and B → both the conditions should be True

C or D → if anyone of the conditions is true, returns true

not E →if the condition is false it will become true, vice versa

Challenge : Build love calculator

```
Instructions
```

```
# 🚨 Don't change the code below 👇
```

```
You are going to write a program that tests the compatibility between two
people.

To work out the love score between two people:

Take both people's names and check for the number of times the letters
in the word TRUE occurs.

Then check for the number of times the letters in the word LOVE occurs.

Then combine these numbers to make a 2 digit number.

For Love Scores less than 10 or greater than 90, the message should be:

"Your score is **x**, you go together like coke and mentos."
For Love Scores between 40 and 50, the message should be:

"Your score is **y**, you are alright together."
Otherwise, the message will just be their score. e.g.:

"Your score is **z**."
```

```
print("Welcome to the Love Calculator!")
name1 = input("What is your name? \n")
name2 = input("What is their name? \n")
# 🚨 Don't change the code above 👆

#Write your code below this line 👇

name1 = name1.lower()
name2 = name2.lower()
count_T = name1.count('t') + name2.count('t')
count_R = name1.count('r') + name2.count('r')
count_U = name1.count('u') + name2.count('u')
count_E = name1.count('e') + name2.count('e')

count_True = count_T + count_R + count_U + count_E

count_L = name1.count('l') + name2.count('l')
count_O = name1.count('o') + name2.count('o')
count_V = name1.count('v') + name2.count('v')
# E has already checked in previous block

count_Love = count_L + count_O + count_V + count_E
Str_count_True_Love = str(count_True) + str(count_Love)
int_count_True_Love = int(Str_count_True_Love)

if (int_count_True_Love<10) or (int_count_True_Love > 90):
    print(f"Your score is {int_count_True_Love}, you go together like coke and
 mentos.")
elif (int_count_True_Love > 40) and (int_count_True_Love < 50):
    print(f"Your score is {int_count_True_Love}, you are alright together.")
else:
    print(f"Your score is {int_count_True_Love}.")
```

```
output :

Welcome to the Love Calculator!
What is your name?
sivakumar
What is their name?
Pooja hegde
Your score is 45, you are alright together.
➜
```

Challenge : Treasure Island

```
## Treasure Island

# Instructions

Make your own "Choose Your Own Adventure" game. Use conditionals such as `if`, `else`, and `elif` statements to lay out the logic and the story's path in your program.
However, I think the fun part is writing your *own* story 😊

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That said if you'd like to continue with my example, feel free to use the text snippets below...

### Text Snippets from my example

* 'You\'re at a crossroad. Where do you want to go? Type "left" or "right"'
* 'You\'ve come to a lake. There is an island in the middle of the lake. Type "wait" to wait for a boat. Type "swim" to swim across.'
* "You arrive at the island unharmed. There is a house with 3 doors. One red, one yellow and one blue. Which colour do you choose?"
* "It's a room full of fire. Game Over."
* "You found the treasure! You Win!"
* "You enter a room of beasts. Game Over."
* "You chose a door that doesn't exist. Game Over."
* "You get attacked by an angry trout. Game Over."
* "You fell into a hole. Game Over."

# Escaping Characters

If you want to use multiple sets of quotes inside a single string, you might have to "escape" some of them using the
backslash `\`. You can see this in my first sentence: 'You\'re at a crossroad...'. [More on escaping characters here.]
(https://www.w3schools.com/python/gloss_python_escape_characters.asp)

# Extensions

Have a think about how you might write your program to make a player's answers less case-sensitive.
 In other words, your code should work regardless of whether your user answers "left" or "Left".

[You can also add your own ASCII art](https://ascii.co.uk/art). Just remember to add three single quotes `'''` at the start and at the end of your artwork
to turn it into a multi-line string.
```

```
Code:
print("Welcome to Treasure Island.")
print("Your mission is to find the treasure.")

#Write your code below this line 👇

choice1 = input('You\'re at a cross road. Where do you want to go? Type "left" or "right" \n').lower()
if choice1 == "left":
  choice2 = input('You\'ve come to a lake. There is an island in the middle of the lake. Type "wait" to wait for a boat. Type "swim" to swim across. \n').lower()
  if choice2 == "wait":
    choice3 = input("You arrive at the island unharmed. There is a house with 3 doors. One red, one yellow and one blue. Which colour do you choose? \n").lower()
    if choice3 == "red":
      print("It's a room full of fire. Game Over.")
    elif choice3 == "yellow":
      print("You found the treasure! You Win!")
    elif choice3 == "blue":
      print("You enter a room of beasts. Game Over.")
    else:
      print("You chose a door that doesn't exist. Game Over.")
  else:
    print("You get attacked by an angry trout. Game Over.")
else:
  print("You fell into a hole. Game Over.")
```

```
output:

Welcome to Treasure Island.
Your mission is to find the treasure.
You're at a cross road. Where do you want to go? Type "left" or "right"
left
You've come to a lake. There is an island in the middle of the lake. Type "wait" to wait for a boat. Type "swim" to swim across.
wait
You arrive at the island unharmed. There is a house with 3 doors. One red, one yellow and one blue. Which colour do you choose?
yellow
You found the treasure! You Win!
```