Challenge 01(Day 3/100): Full Python With DSA in 100 Days with Projects

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Day 3/100 : Conditional Logics in Python

3-1: Conditional Logic in Python:

Now , lets talk about another fantastic topic named conditional logic in python. In our daily life, we always perform all tasks based on some conditions. Such as:

1. If it rains, I won't go to school.
2. If the weather is hot , I'll eat ice-cream.
3. If they pay me , I'll work for them.

See , most of the works done by us in real life are based on some conditions. Similarly, in every programming languages there are some operators which guide the code to run on some user defined conditions.

Python also have this wonderful feature.

3-2: Conditional Operators in Python:

Conditional operators are those which help the user to control the code by giving some conditions. There are 3 types of conditional operators:

1. if
2. elif
3. else

if operator:

"if" is the simplest conditional operator. It's structure is given below:

if structure:

```
if condition: #if the condition is true statement will be ex
   statement
```

example:

code-1:

```
a = 100
b = 90

if a > b:
  print("a is greater than b")
```

Output:

a is greater than b

elif operator:

“elif” is used when there is multiple conditions are needed in same code. It’s structure is given below:

elif structure:

```
if condition 1: #if the condition 1 is true then statement 1
   statement 1
elif condition 2:
   statement 2 #if the condition 2 is true then statement 2
elif condition 3:
   statement 3 #if the condition 3 is true then statement 3
```

code-2:

```
a = 50
b = 90
c = 40

if a > b:
  print("a is greater than b")
elif a > c:
   print("a is greater than c")
```

Output:

a is greater than c

else operator:

“else” is an default condition which is used when there is no or only one condition left. Here is the structure:

elif structure:

```
if condition 1:
   statement 1  #if the condition 1 is true then statement 1
elif condition 2:
   statement 2 #if the condition 2 is true then statement 2
elif condition 3:
   statement 3 #if the condition 3 is true then statement 3
else:
   statement 4 #when none of the conditions from 1,2,3 are t
```

💻 code-3:

```
a = 10
b = 90
c = 40

if a > b:
  print("a is greater than b")
elif a > c:
   print("a is greater than c")
else:
   print("None of them")
```

Output:

None of them

Now let's get deep dive about more operators.

💡 3-3 Relational Operator:

Relational Operators are used to evaluate conditions inside the if statements. Some examples of relational operators are:

1. ==: equals.
2. > =: greater than/ equal to.
3. < =: lesser than/ equal to

💡 3-4 Logical Operator:

In python logical operators operate on conditional statements. For Example:

1. and – true if both operands are true else false.

2. or – true if at least one operand is true or else false.
3. not – inverts true to false & false to true.

Now let's get into more coding examples:

code-4: A program to find the greatest of four numbers entered by the user

```
a = int(input("Enter number 1: "))
b = int(input("Enter number 2: "))
c = int(input("Enter number 3: "))
d = int(input("Enter number 4: "))

if(a>b and a>c and a>d):
  print(a,"is the largest")
elif(b>a and b>c and b>d):
  print(b,"is the largest")
elif(c>a and b<c and c>d):
  print(c,"is the largest")
else:
  print(d,"is the largest")
```

Input:

Enter number 1: 23

Enter number 2: 34

Enter number 3: 54

Enter number 4: 100

Output:

100 is the largest

code-5: A program to find out whether a student has passed or failed if it requires a total of 40% and at least 33% in each subject to pass. Assume 3 subjects and take marks as an input from the user.

```
mark_sub1 = int(input("Enter mark 1: "))
mark_sub2 = int(input("Enter mark 2: "))
mark_sub3 = int(input("Enter mark 3: "))

total_percentage = ((mark_sub1 + mark_sub2 + mark_sub3)/300)

if(total_percentage>=40 and mark_sub1>=33 and mark_sub2>=33
  print("Your're Passed")

else:
  print("You're Failed")
```

Input:

Enter mark 1: 78

Enter mark 2: 89

Enter mark 3: 91

Output:

Your're Passed

Okay enough examples for today now let’s make a project with today’s learning.

3-5 Project-3: Advanced Grading System with Feedback

Project: Advanced Grading System with Feedback

```
# Input the mark
mark = int(input("Enter your mark: "))

# Validate the mark
if mark < 0 or mark > 100:
    print("Invalid mark! Please enter a value between 0 and
else:
    # Determine the grade
    if mark >= 91:
        grade = "A+"
        feedback = "Excellent work! Keep it up!"
    elif mark >= 81:
        grade = "A"
        feedback = "Great job! You're doing very well."
    elif mark >= 71:
        grade = "B"
        feedback = "Good effort! A little more focus will ta
    elif mark >= 61:
        grade = "C"
        feedback = "Fair performance. Try to work on your we
    elif mark >= 50:
        grade = "D"
        feedback = "You passed, but there's room for improve
    else:
        grade = "F"
        feedback = "You failed. Don't get discouraged; work

    # Output the grade and feedback
    print("Your grade:",grade)
    print("Feedback:",feedback)
```

Input:

Enter your mark : 54

Output:

Your grade: D

Feedback : You passed, but there's room for improvement.

Yay!!! Congratulations!!! we've made another project using python and we'll make 97 projects more. Till then stay tuned.

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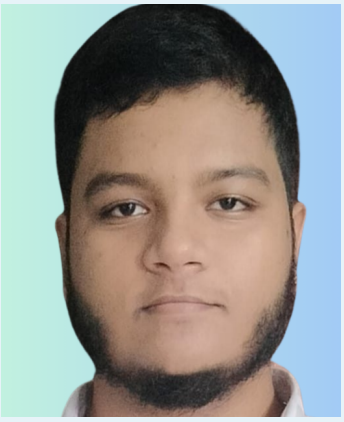

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Group link: https://lnkd.in/gr3QdnKR

Page Link: https://lnkd.in/g8A3qRwv

Github Repository: https://github.com/aimG313/challange_01_Full_Python_with_DSA-_in_100_days