

Programming and Scripting

Lab Topic 04-Flow control if elif and else

Introduction.

I would suggest that you create another folder in labs called Week04-flow.
I am not correcting the work you do in the labs this is for yourself, but I will gladly go through any of it with you if you wish, (you will need to push it to GitHub)
You can save the programs you create in this lab in there.

If, elif, else:

1. Write a program (isEven.py) that asks the user to enter in a number, and the program will tell the user if the number is even or odd.

```
Enter a number: 67
67 is an odd number
```

```
number = int(input("enter an integer:"))

if (number % 2) == 0:
    print (f"{number} is an even number")
else:
    print(f"{number} is an odd number")
```

2. Write a program (grade.py) that reads in a student's percentage mark and prints out corresponding the grade (the program should check that the percentage is valid:

- Under 40% => Fail
- Between 40% and 49% => Pass
- Between 50% and 59% => Merit 2
- Between 60% and 69% => Merit 1
- Over 70% => Distinction

Enter the percentage: 67
Merit2

Answer

```
# This program reads in
# a students percentage
# and prints out the
# corresponding grade

percentage = float(input("Enter the percentage: "))
#print (percentage)

# be careful with ands and ors
if percentage < 0 or percentage > 100:
    # Later we will show you error handling
    # This should really throw an error
    print ("Please enter a number between 0 and 100")
elif percentage < 40: # we know it is greater than 0
    print ("Fail")
elif percentage < 50: # between 40 and 49
    print ("Pass")
elif percentage < 60: # between 50 and 59
    print ("Merit1")
elif percentage < 70: # between 60 and 69
    print ("Merit2")
else: # the only option left is between 70 and 100
    print ("Distinction")
```

Extra (I will not give the answer to these)

3. In practice the percentages are rounded ie 69.5 gets rounded to 70 so is equal to a Distinction.
How would you modify the program in 1 to deal with this?
I see two ways.
4. How would you use a while loop to modify 1 so that it keeps prompting the user for a number until the user enters -1
5. I believe that data camp has some exercises in python you may want to look at them