

Exercises - Decision Making

Part I: if statement

1-1 Python program to consider the probation (Comparison Operators).

- To check GPAX entered by the user.
- If GPAX less than 1.8, then print ("Your status is Probation").

```
#Python Program to consider the probation.  
  
GPAX = float(input("Enter a number of your GPAX: "))  
if GPAX < 1.8:  
    print("Your status is Probation")
```

Output

```
=====  
RESTART: C:/Users/JittimaJune/Documents/compro/CW_Week3_1.py  
Enter a number of your GPAX: 1.5  
Your status is Probation
```

1-2 Count the number of students from the name (Logical operators).

```
#Count the number of students from the name.  
  
collegeStudents = 0  
name=input("Enter your name: ")  
if name=="June" or name=="Ann" or name=="Tech" or name=="Ada":  
    collegeStudents+=1  
    print("The number of student is %d " %collegeStudents)
```

Output

```
=====  
RESTART: C:/Users/JittimaJune/Documents/compro/CW_week3_1-2.py  
Enter your name: June  
The number of student is 1  
>>>
```

1-3 Check car type from car brand (Membership Operators).

```
#Check car type from car brand.  
my_car=input("Enter the brand of your car: ")  
if my_car in ["Honda", "Toyota", "Nissan", "Mazda", "Isuzu", "Mitsubishi"]:  
    print("My car is a Japanese car.")
```

Output

```
=====  
RESTART: C:/Users/JittimaJune/Documents/compro/  
Enter the brand of your car: Toyota  
My car is a Japanese car.
```

Part II: if...else statement

2-1 Python program to if a Number is Odd or Even.

- To check whether a number entered by the user is even or odd.
- If the number(x) is odd, then print ("x is Odd number").
- If the number(x) is even, then print ("x is Even number")

```
# To check if the input number is odd or even.
# A number is even if division by 2 give a remainder of 0.
# If remainder is 1, it is odd number.

num = int(input("Enter a number: "))
if (num % 2) == 0:
    print("{0} is Even".format(num))
else:
    print("{0} is Odd".format(num))
```

Output

```
===== RESTART: C:/Users/JittimaJune/Documents/compro/CW_week3_2-1.py
Enter a number: 16
16 is Even
>>>
===== RESTART: C:/Users/JittimaJune/Documents/compro/CW_week3_2-1.py
Enter a number: 25
25 is Odd
>>>
```

2-2 Python program to check you are an adult or not.

- Entered the age from users.
- If the age greater than or equal to 18, then print "Adult".
- If the condition is False print "Not an adult".
- After that print "Tell me more about yourself".

```
CW_week3_2-2.py - C:\Users\JittimaJune\Documents\compro\CW_week3_2-2.py (3.7.1)
File Edit Format Run Options Window Help
# To check the age
# if age greater than or equal to 18?

age = int(input("How old are you: "))
if (age >= 18):
    print("Adult")
else:
    print("Not an adult")
print("Tell me more about yourself")
```

Output

```
===== RESTART: C:\Users\JittimaJune\Documents\compro\CW_week3_2-2.py
How old are you: 18
Adult
Tell me more about yourself
>>>
===== RESTART: C:\Users\JittimaJune\Documents\compro\CW_week3_2-2.py
How old are you: 10
Not an adult
Tell me more about yourself
>>>
```

Part III: Nested if statement

3-1 Python program to check your age

- Prompts the user to enter your age.
- The program will first determine if the user is older than 21.
- If that is the case, the program will additionally check if the user is older than 100.
- If that is the case, it will print the corresponding message, indicating that the user is too old ('You are too old, go away!').
- If the user entered a number between 21 and 100, the Welcome, you are of the right age! message will be printed.
- If the user has entered a number less than 21, he will be informed that 'You are too young, go away!'.

```
CW_week3_3-1.py - C:/Users/JittimaJune/Documents/compro/CW_week3_3-1.py (3.7.1)
File Edit Format Run Options Window Help
#Python program to check your age
#Nested if statement

x = int(input('Enter your age: '))

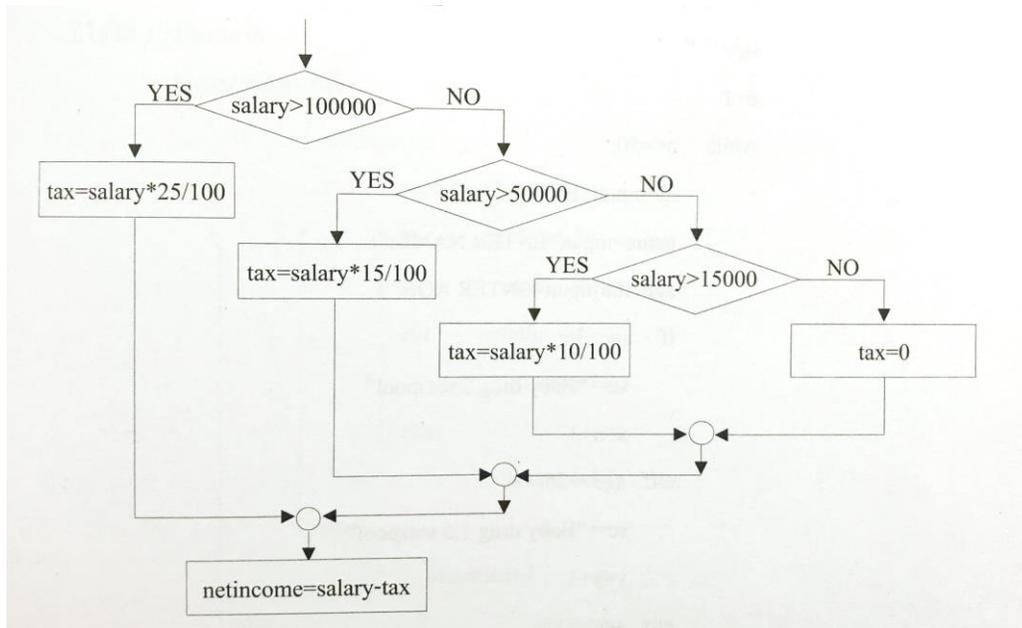
if x > 21:
    if x > 100:
        print('You are too old, go away!')
    else:
        print('Welcome, you are of the right age!')
else:
    print('You are too young, go away!')
```

Output

```
===== RESTART: C:/Users/JittimaJune/Documents/compro/CW_week3_3-1.py
=====
Enter your age: 33
Welcome, you are of the right age!
>>>
===== RESTART: C:/Users/JittimaJune/Documents/compro/CW_week3_3-1.py
=====
Enter your age: 20
You are too young, go away!
>>>
===== RESTART: C:/Users/JittimaJune/Documents/compro/CW_week3_3-1.py
=====
Enter your age: 100
Welcome, you are of the right age!
>>>
===== RESTART: C:/Users/JittimaJune/Documents/compro/CW_week3_3-1.py
=====
Enter your age: 101
You are too old, go away!
```

Part IV: if...elif else Ladder

4-1 Write the program from the flowchart as follows:



- Prompts the user to enter the salary.
- Finally print net income ("Net income = xxx")

```
#Python program to calculate net income
#if...elif else ladder

salary = int(input('Enter your salary: '))

if salary > 100000:
    tax=salary*25/100
elif salary > 50000:
    tax=salary*15/100
elif salary > 15000:
    tax=salary*10/100
else:
    tax=0
netincome=salary-tax
print("Net income = ",netincome)
```

Output

```
Enter your salary: 30000
Net income = 27000.0
>>>
```