FBT0015 STRUCTURED ALGORITHM & PROGRAMMING
SEM SEPT2020 LAB EXERCISE WEEK 7 (LAB 1)

Learning Outcomes

Upon completion of this lab session, learners will be able to:

1. **evaluate Boolean expressions (TRUE/FALSE).**
2. **use logical operators in Python programs**
3. **use if ..elif..else or nested else statements**

Activity #1

Given that value for X is 4.5, Y is 45.6 in float datatypes.Meanwhile, P is True, Q is False and R is True in Boolean datatypes. Which of the following Boolean expressions is incorrect and why? If the expression is correct, write its Boolean value.

a. `X < 7.2 and Y > 15.4`

b. `(X < 7.2) and (Y > 15.4)`

c. `P and Q or Q and R`

d. `(P AND Q) or (Q and R)`

Activity #2

Hand trace all statements before typing and compile with the IDE.

1. What will be displayed by these statements?

a.
```
if 12 < 12 :
   print('Less')
else:
   print('Not Less')
```

b.
```
Var1,Var2=25.12,15.00
If Var1 <= Var2 :
  print('Less or equal')
Else :
  print ('Greater than')
```

2. What is the final value assigned to X?

a.
```
Y,X=15.0,25.0
if  Y != (X - 10.0):
   X = X -10
else:
   X = X /2.0
```

b.
```
Y=10.0
X = 25.0
if Y != (X - 10.0):
   X= X -10
else:
   X = X /2.0
```

c.
```
Y=15.0
if (Y < 15.0) and (Y >= 0.0):
   X = 5 * Y
else:
   X = 2 * Y
```

d.
```
Y=10.0
if (Y < 15.0) and (Y >= 0.0):
   X = 5 * Y
else:
   X = 2 * Y
```

e.
```
Y=36.0
if (Y < 15.0) and (Y >= 0.0):
   X = 5 * Y
elif Y >20 :
   X = 4 * Y
else:
   X = 2 * Y
```

f.

```
Y=-5
if (Y < 15.0) and (Y >= 0.0):
   X = 5 * Y
elif Y >20 :
   X = 4 * Y
else:
   X = 2 * Y
```

g.

```
Y=67
if (Y < 15.0) and (Y >= 0.0):
   X = 5 * Y
elif Y >20 :
   if Y<30:
      X = 4 * Y
   else:
      X = 0 * Y
else:
   X = 2 * Y
```

Activity #3

Write a Python program that will accept the number of minutes spent by a teenager over the Internet, per day. Use the formula below and determine the addiction status by using the steps given.

Hours spent on the Net= minutes spent on the Net /60

If the hours spent on the Net are more than or equal to 2, display the message that "You might be addicted to the Net" and ask further questions:

- Do you stay online longer than you intended?
- Do you hear other people in your life complain about how much time you spend online?
- Do you say or think, "Just a few more minutes" when online?
- Do you try and fail to cut down on how much time you spend online?
- Do you hide how long you've been online?

If any 3 or more of the answer is 'yes', display to the user ""You are an INTERNET ADDICT". If user answered 'yes' less than 3, display "Control your Internet usage. You might become an ADDICT". For user who spent less than 2 hours, inform the user "Keep up the good habit".