
KEMENTERIAN PENDIDIKAN TINGGI

POLITEKNIK MALAYSIA
METrO Tasek Gelugor

**Politeknik METrO Tasek Gelugor**

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**PUSAT KOMERSIAL TASEK GELUGOR**

**13300 TASEK GELUGOR**

**PULAU PINANG**

**DFN40323**
**PROGRAMMING ESSENTIALS IN PHYTON**

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| **CLASS:** | **DDT4A** |
| **REGISTRATION NO:** | **32DDT20F2029** |
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| **NAME OF TASK:** | **LAB ACTIVITY 3 (II): MAKING DESICION IN PYTHON** |

# LAB ACTIVITY 3(ii):
# Making Decision In Python


## Learning Outcomes:

**By the end of this laboratory session, you should be able to:**

1. **Display the implementation of conditional operator in simple program**

## Activity 3F

Activity Outcome: Display the implementation of conditional operator in simple program.
(Condition statements)

Procedure:

**Step 1:** Open Code editor and type the following code:

```
# Program for converting temperature

temp = input("Input the  temperature you like to convert?(e.g., 55F, 200C etc.) : ")
degree = int(temp[:-1])
i_convention = temp[-1]

if i_convention.upper() == "C":
        result = int(round((9 * degree) / 5 + 32))
        after_conv = "Fahrenheit"
elif i_convention.upper() == "F":
        result = int(round((degree - 32) * 5 / 9))
        after_conv = "Celsius"
else:
        print("Input proper convention.")
        quit()

print("The temperature in", after_conv, "is", result, "degrees.")
```

**Step 2:** Save, compile and run the program. Save the program as `Act3F.py`. Try to input **ONE(1) temperature in Celcius** and **ONE(1) temperature in Fahrenheit**. Display the output in the area below.

**Output:**

## Temperature in Celsius

```
Input the temperature you like to convert?(e.g., 55F, 200C etc.):55F
The temperature in Celsius is 13 degrees.
```

## Temperature in Fahrenheit

```
Input the temperature you like to convert?(e.g., 55F, 200C etc.):200C
The temperature in Fahrenheit is 392 degrees.
```

## Error

```
Input the temperature you like to convert?(e.g., 55F, 200C etc.):69U
Input proper convention
```

# Activity 3G

Activity Outcome: Display the implementation of conditional operator in simple program. (Condition statements)

Procedure:

**Step 1:** Open code editor and type the following code:

```
'''In this program, we input a number
check if the number is positive or
negative or zero and display
an appropriate message'''

#Nested if

num = float(input("Enter a number: "))
if num >= 0:
    if num == 0:
        print("Zero")
    else:
        print("Positive number")
else:
    print("Negative number")
```

**Step 2:** Save, compile and run the program. Save the program as `Act3G.py`. Try to input **ONE(1) positive number** and **ONE(1) negative number**. Display the output in the area below.

**Output:**

## Input ONE positive number

```
Enter a number:15
Positive number
```

## Input ONE negative number

```
Enter a number:-99
Negative number
```

# Activity 3H

Activity Outcome : Display the implementation of conditional operator in simple program.
(Looping While)

Procedures:

**Step 1:** Open code editor and type the following code:

```
a = 5
b = 1
while b <= 5:
        print ("%d * %d = %d" %(a, b, a*b))
        b+=1
```

**Step 2:** Save, compile and run the program. Save the program as `Act3H.py`. Display the output in the area below..

**Output:**

```
5 * 1 = 5
5 * 2 = 10
5 * 3 = 15
5 * 4 = 20
5 * 5 = 25
```

# Activity 3I

Activity Outcome : Display the implementation of conditional operator in simple program.
(Condition and While Loop)

Procedures:

**Step 1:** Open code editor and type the following code:

```
a = 1
while a <= 3:
    b = int (input ("Enter a number: "))
    if b == 0:
        print ("exiting loop with break command, 'else' is not executed")
        break
    a+=1

else:
    print ("loop exited without executing break command")
```

**Step 2:** Save, compile and run the program. Save the program as `Act3I.py`. Display the output in the area below..

**Output:**

**Entered 0 into code**

```
Enter a number:0
Exiting loop with break command, 'else' is not executed
```

**Entered 5 into code**

```
Enter a number:5
Enter a number:5
Enter a number:5
Loop exited without executing break command
```

# Activity 3J

Activity Outcome : Display the implementation of conditional operator in simple program.
(Condition and For Loop)

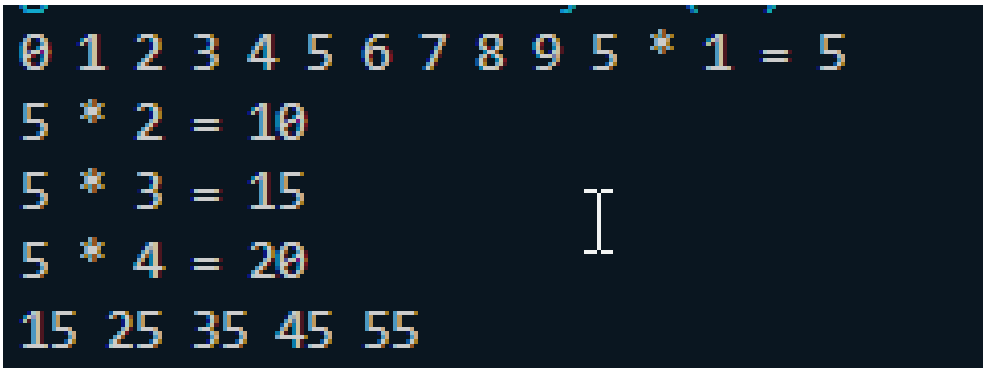
Procedures:

**Step 1:** Open code editor and type the following code:

```
#For loop and Range function
#Example 1:

for a in range(10):
        print (a, end=" ")

#---------------------------------------
#Example 2:

a = 5
for b in range(1, 5):
        print ("%d * %d = %d" %(a, b, a*b))

#---------------------------------------
#Example 3:

a = [10,20,30,40,50]
for b in a:
        print (b+5, end=" ")
```

**Step 2:** Save, compile and run the program. Save the program as `Act3J.py`. Display the output in the area below..

**Output:**



# Activity 3K

Activity Outcome : Display the implementation of conditional operator in simple program.
(Condition and While Loop with break statement)

Procedures:

**Step 1:** Open code editor and type the following code:

```
x = 10
while x <= 100:
        if x == 50:
                break
        print (x)
        x = x + 10

else:
        print ("The condition became false!")
```

**Step 2:** Save, compile and run the program. Save the program as `Act3K.py`. Display the output in the area below..

**Output:**

**If x = 10**

```
10
20
30
40
```

**If x = 60**

```
60
70
80
90
100
The condition become false
```

# Activity 3L

Activity Outcome : Display the implementation of conditional operator in simple program.
(Condition and While Loop with break statement)

Procedures:

**Step 1:** Open code editor and type the following code:

```
rows = int(input("Enter the number of rows: "))

# print the space
k = 2 * rows - 2

# Outer loop -to print number of rows
for i in range(0, rows):
    # Inner loop - to print number of space
    for j in range(0, k):
        print(end=" ")
    # Decrement in k after each iteration
    k = k - 1
    # This inner loop - to print stars
    for j in range(0, i + 1):
        print("* ", end="")
    print("")

# Downward triangle Pyramid
# print the space
k = rows - 2
# Output for downward triangle pyramid
for i in range(rows, -1, -1):
    # inner loop -print the spaces
    for j in range(k, 0, -1):
        print(end=" ")
    # Increment in k after each iteration
    k = k + 1
    # Inner loop- print number of stars
    for j in range(0, i + 1):
        print("* ", end="")
    print("")
```

**Step 2:** Save, compile, and run the program. Save the program as `Act3L.py`. Display the output in the area below.

**Output:**