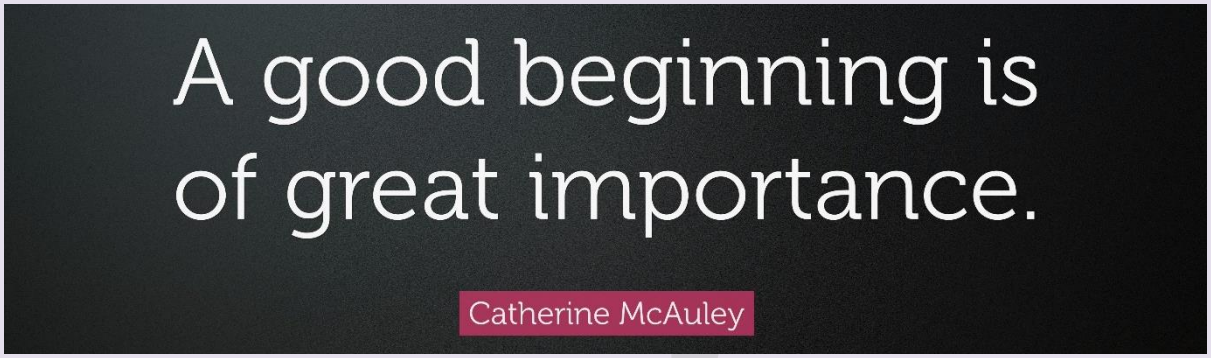
UJ-SETA | **Laboratory 1** | 10th June 2022

UJ-SETA Short Learning Programme on Introductory Programming

Facilitator: Prof. Abejide Ade-Ibijola



Name: Nhlakanipho Blessing Mjiyakho ____ StudNo : 222253005

Section A: Arithmetic

(1). Evaluate the following operations:

5 <= -5?	False
71 = 71	True
-7 >= -31	True
Floor(8.54) – Ceil (3.24)	4
Floor(Ceil (9.19) + Floor(-6.78) + 0.3)	4.3
7 Mod 3 =	1
17 Mod 18 =	17
(19 mod 18) mod 6	1

(2). Truth Tables:

Rules:

AND rule: p AND q is TRUE if and only if both are TRUE. Otherwise, it is FALSE.

OR rule: p OR q is TRUE if either p is TRUE OR q is TRUE, or both are TRUE.

NOT: if p is TRUE, NOT(p) is false; and vice-versa.

Note: The *truth value* of a statement is the classification as **true** or **false** which is denoted by **T** or **F**. A truth table is a listing of all possible combinations of the individual statements as **true** or **false**, along with the resulting truth value of the compound statements. Truth tables are an aide in distinguishing valid and invalid arguments. They also find many applications in computer programming.

Complete the following truth table:

P	Q	NOT(P)	NOT(Q)	P AND Q	P OR Q	NOT (P) AND Q
T	T	F	F	T	T	F
T	F	F	T	F	T	F
F	T	T	F	F	T	T
F	F	T	T	F	F	F

P AND NOT(Q) OR P	Q OR NOT(Q) AND P	(NOT(P) AND NOT(Q)) OR P	**T** AND NOT (P OR Q)	**F** OR P AND (Q AND P)	P AND Q AND P OR Q	P OR P	Q OR Q
F	F	T	F	T	F	F	F
T	T	F	T	F	T	F	F
F	F	T	T	T	T	F	F
T	T	F	F	T	F	F	F