



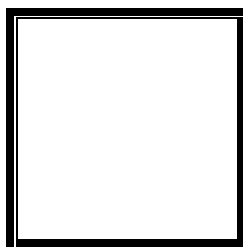
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## LINEAR ALGEBRA

Laboratory No. # 1

### PYTHON FUNDAMENTALS



Score

CRITERIA	Exceeds Expectations	Meets Expectations	Needs Improvement	Unsatisfactory
Functionality (60 points)				
Completeness (20 points)				
Structure (20 points)				

Remarks: \_\_\_\_\_  
\_\_\_\_\_

*Submitted by:*  
**SERGIO, Jasper D..**  
**M 7-10AM / 58013**

*Submitted to*  
**Ma'am Maria Rizette Sayo**  
Instructor

*Date Performed:*  
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*Date Submitted*  
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### **Objective**

In this module, we are going to establish or review our skills in Python programming. In this notebook we are going to cover:

1. Variables and Data Types
2. Operations
3. Input and Output Operations
4. Logic Control
5. Iterables
6. Functions

### **Algorithm**

1. Type the main title of this activity as "Python Fundamentals"
2. On your GitHub, create a repository name Linear Algebra 58019
3. On your Colab, name your activity as Python Exercise 1.ipynb and save a copy to your GitHub repository

### **Coding Activity 1**

#### A. Variable and Data Types

```
x = 1
a,b = 0, -1

type(x)

y = 1.0
type(y)

x = float(x)
type(x)

s,t,u = "0", '1', 'one'
type(s)

s_int = int(s)
s_int
```

#### B. Arithmetic Operations

```
a,b,c,d = 2.0, -0.5, 0, -32
```



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### Addition

$S = a + b$

S

### Subtraction

$D = b - d$

D

### Multiplication

$P = a * d$

P

### Division

$Q = c / a$

Q

### Exponentiation

$E = a ** b$

E

### Modulo

$mod = d \% a$

mod

C. Assignment Operations

G, H, J, K = 0, 100, 2, 2

G += a

G

H -= d

J \*= 2

J

K \*\*= 2

K



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D. Comparators

```
res_1, res_2, res_3 = 1, 2.0, "1"  
true_val = 1.0
```

```
## Equality  
res_1 == true_val
```

```
## Non-equality  
res_2 != true_val
```

```
## Inequality  
t1 = res_1 > res_2  
t2 = res_1 < res_2/2  
t3 = res_1 >= res_2/2  
t4 = res_1 <= res_2  
t1
```

E. Logical

```
res_1 == true_val  
  
res_1 is true_val  
  
res_1 is not true_val
```

```
p, q = True, False  
conj = p and q  
conj
```

```
p, q = True, False  
disj = p or q  
disj
```

```
p, q = True, False  
nand = not(p and q)  
nand
```

```
p, q = True, False  
xor = (not p and q) or (p and not q)  
xor
```



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F. Input and Output Operations

```
print("Hello World")

cnt = 1

string = "Hello World"
print(string, ", Current run count is:", cnt)
cnt += 1

print(f"{string}, Current count is: {cnt}")

sem_grade = 82.243564657461234
name = ""
print("Hello {}, your semestral grade is: {}".format(name, sem_grade))

w_pg, w_mg, w_fg = 0.3, 0.3, 0.4
print("The weights of your semestral grades are:\n\t{:.2%} for Prelims\n\t{:.2%} for Midterms, and\n\t{:.2%} for Finals.".format(w_pg, w_mg, w_fg))

x = input("enter a number: ")
x

name = input("Kimi no nawa: ")
pg = input("Enter prelim grade: ")
mg = input("Enter midterm grade: ")
fg = input("Enter finals grade: ")
sem_grade = None
print("Hello {}, your semestral grade is: {}".format(name, sem_grade))
```



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#### G. Looping Statements

```
## while loops
i, j = 0, 10
while(i<=j):
    print(f"{i}\t\t{j}")
    i+=1

# for(int i=0; i<10; i++){
# printf(i)
# }

i=0
for i in range(10):
    print(i)
```

#### H. Flow Control

```
####Condition Statements
numeral1, numeral2 = 12, 12
if(numeral1 == numeral2):
    print("Yey")
elif(numeral1>numeral2):
    print("Hoho")
else:
    print("Aww")
print("Hip hip")
```

#### I. Functions

```
# void DeleteUser(int userid){
#   delete(userid);
# }

def delete_user (userid):
    print("Successfully deleted user: {}".format(userid))

def delete_all_users ():
    print("Successfully deleted all users")
```