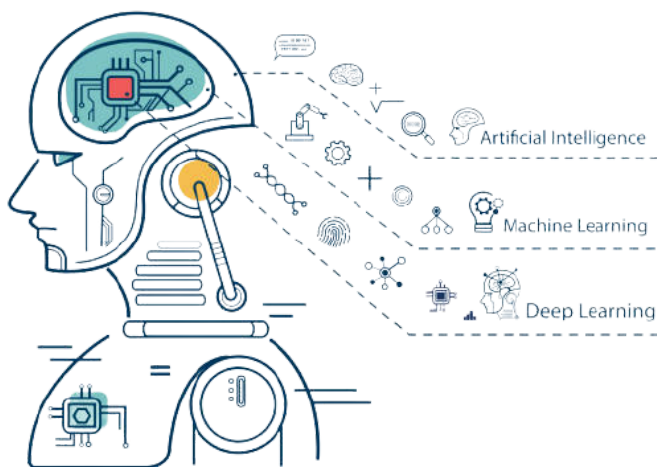


# DISCUSSION SESSION

# PYTHON FOR DATA SCIENCE

Week - 1



# Introducing **ABOUT ME**

## **Manav Mishra**

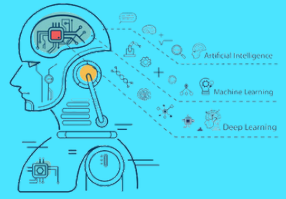
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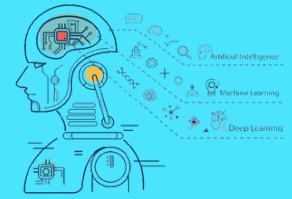
# PYTHON FOR DATA SCIENCE



Very basic aspect of python

Domain : Data science.

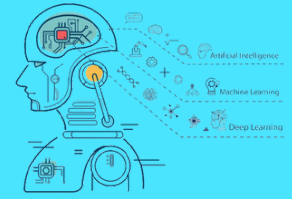
# Data Science



Science of analyzing raw data.

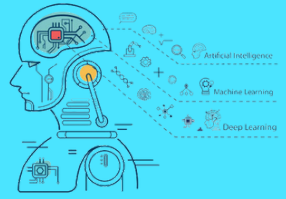
1. Healthcare → predictive analysis for patient outcome
2. Retail → personalized marketing & inventory optimization
3. Agriculture → precision farming and yield prediction.

# Data Perspective



- Read data
- process data
- Summarize data
- visualize
- derive insights.

# Data Types in Python



Boolean → True / False

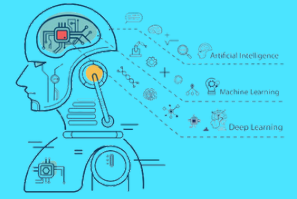
Integer → -1, -3, 0, 55, etc.

Float → 3.14, 4.0, -1.3, etc.

Complex →  $3 + 4i$ ,  $-1 - 5j$ , etc.

String → "hi", "John", "1", etc.

# Operators - Arithmetic operators

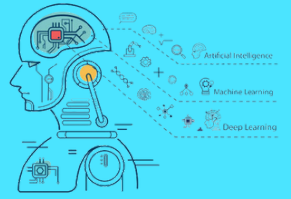


$a = 10$  ,  $b = 5$

+	$a + b$	15
-	$a - b$	5
*	$a * b$	50
/	$a / b$	2
//	$a // b$	2
%	$a \% b$	0

# Assignment

## operator



$a = 10$

$b = 5$

$=$

$a = 10, b = 5$

$+=$

$a += b$

$\Rightarrow$

$a = a + b$

$a = 15$

$- =$

$a -= b$

$\Rightarrow$

$a = a - b$

$* =$

$a *= b$

$\Rightarrow$

$a = a * b$

$/ =$

$a /= b$

$\Rightarrow$

$a = a / b$

$// =$

$a //= b$

$\Rightarrow$

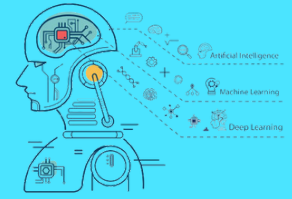
$a = a // b$



## Relational operators

$a = 10$

$b = 5$

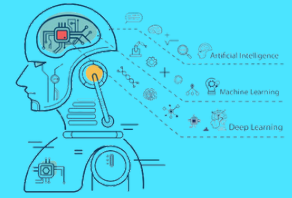


$<$	$a < b$	False
$>$	$a > b$	True
$\neq$	$a \neq b$	False
$\geq$	$a \geq b$	True
$==$	$a == b$	False
$!=$	$a != b$	True

# Logical operators.

$a = 10$

$b = 5$

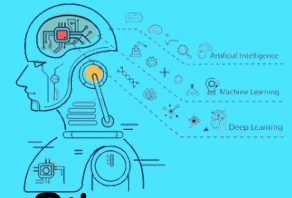


or  $(a > b)^T$  or  $(a < b)^F = \text{True}$

and  $(a > b)^T$  and  $(a < b)^F = \text{False}$

not  $(a == b)^F = \text{True}$

# Bit wise operation



Bit OR

a = 5

b = 7

Bit OR

$$\begin{array}{r} 0000 \ 0101 \\ 0000 \ 0111 \\ \hline 0000 \ 0111 \\ \downarrow \\ 7 \end{array}$$

Bit AND

$$\begin{array}{r} 0000 \ 0101 \\ 0000 \ 0111 \\ \hline 0000 \ 0101 \Rightarrow 5 \end{array}$$

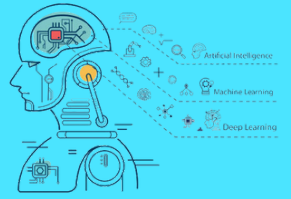
1

i/p	o/p
0 0	0
0 1	1
1 0	1
1 1	1

Bit AND

i/p	o/p
0 0	0
0 1	0
1 0	0
1 1	1

# Order of precedence.



1. ( )

2. \*\*

3. /, //

4. %

5. \*

6. +, -



7. k BIT AND

8. | BIT OR

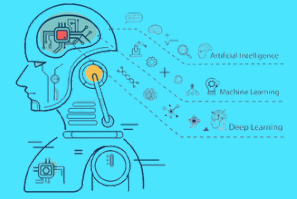
9. ==, !=, <=, >=

10. not

11. and

12 or





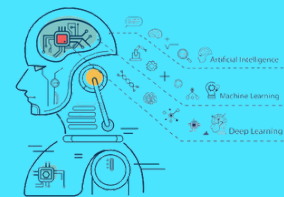
$a = 10$

$b = 5$

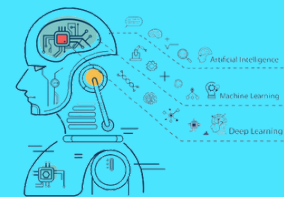
$\text{not } (a \geq b \quad \text{or} \quad a < b)$

$\text{not } (\text{TRUE})$

FALSE



Artificial Intelligence  
Machine Learning  
Deep Learning



Artificial Intelligence  
Machine Learning  
Deep Learning



**THANKS  
FOR WATCHING**

