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Decision Statements

- Statement vs Expression
- Relational Operators
- Logical Operators
- If statement and its variants
- **Nesting** of statements

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Statement vs Expression

- **Expression** is something that evaluates to a value
- **Statement** is any line of code that can be executed by the python interpreter.
- Since expressions evaluate to value, so they can appear on the rhs of an assignment operator (=).

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Relational Operators

• These operators return **True** or **False** depending on truth or false value of the relation

Operators:

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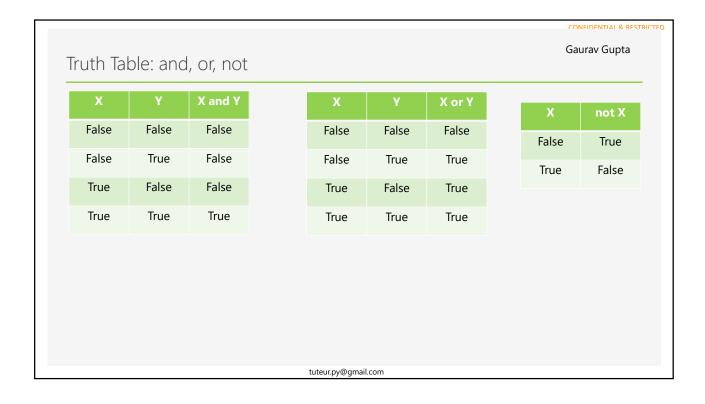
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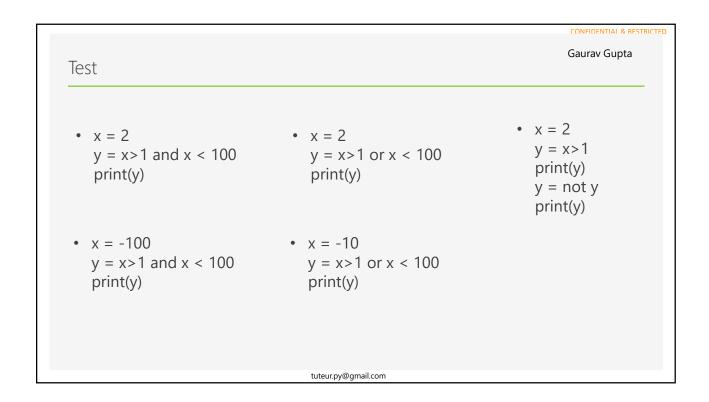
Logical Operators

- These operators evaluate **Truth** and **False** values and return **True** or **False**depending logic of the operator
 - 3 logical Operators:

and, or, not

• and and or are binary operator, whereas not is a unary operator





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Simple If Statement

- if condition_1: statement_block_1 # notice the indentation (spacing) before the block
- The code referred to as statement_block_1 gets executed only if the condition evaluates to true else gets skipped.
- WAP to print absolute value of a number

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Simple If-else Statement

- if condition_1:
 statement_block_1
 else:
 statement_block_2
- The code referred to as statement_block_1 gets executed only if the condition evaluates to true else statement_block_2 gets executed.
- WAP to input 2 number and print the larger one
- WAP to print whether number is even or odd
- WAP to check if a string is **palindrome** or not (**naman** is palindrome, **gaurav** is not)

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if-elif-else Statement
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if condition_1:
 statement_block_1
 elif condition_2:
 statement_block_2
 ...
 ...
 else:

optional

statement_block_n

- WAP to check if no is positive, negative or zero.
- WAP to create a 4 function calculator. (also update to use functions)

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if-elif-else Statement

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 WAP to input age and print the respective text depending on the age ranges as present in the table.

Age	Text To display
0-12	Child
13-17	Teen
18-50	Adult
51-100	Senior Citizen
age > 100	All the Best

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Nested if-else statements

- if condition_1:
 if condition_2:
 block_1
 else:
 block_2
 elif ...
 ...
- When a if block appears within another if block (can be inside elif or else or both), the inner block is said to be nested inside the outer block.

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Test

- WAP to input 2 numbers. And do operation depending on the following:
 - 1. if any of the numbers is negative:
 - a. if both are odd, add them
 - b. otherwise, subtract them
 - 2. otherwise:
 - a. if both are odd, multiply
 - b. if one of them is odd, divide
 - c. otherwise, find remainder
- WAP to input 2 numbers and check whether the first is divisible by the second and print true or false depending on the divisibility.
- WAP to print the value of the largest of 3 numbers taken as input from the user.