Experiment - 3

- **Title**: Formulas in MS Excel.

- **SUMIF**: This function adds up values in a range that meet specified criteria. For example, you could use SUMIF to add up all sales amounts where the product is "Apple".

Name	Mode	Amount	Status	Profession
Nikhil	Cash	₹ 12,000.00	M	Manager
Ravi	Online	₹ 23,000.00	S	Professor
Piyush	Cash	₹ 34,000.00	S	Manager
Sandeep	Cash	₹ 45,000.00	M	Professor
Danish	Online	₹ 56,000.00	M	Driver
Ankit	Cash	₹ 67,000.00	M	Manager
Ankush	Online	₹ 78,000.00	S	Professor
Ratchet	Cash	₹ 89,000.00	M	Driver
Saket	Online	₹ 1,00,000.00	S	Driver
		₹ 5,04,000.00		

SUMIF	
Cash	₹ 2,47,000.00
Online	₹ 2,57,000.00

- **COUNTIF**: This function counts the number of cells within a range that meet the given criteria. For instance, you could use COUNTIF to count the number of times "Done" appears in a list of tasks.

Name	Mode	Amount	Status	Profession
Nikhil	Cash	₹ 12,000.00	M	Manager
Ravi	Online	₹ 23,000.00	S	Professor
Piyush	Cash	₹ 34,000.00	S	Manager
Sandeep	Cash	₹ 45,000.00	M	Professor
Danish	Online	₹ 56,000.00	M	Driver
Ankit	Cash	₹ 67,000.00	M	Manager
Ankush	Online	₹ 78,000.00	S	Professor
Ratchet	Cash	₹ 89,000.00	M	Driver
Saket	Online	₹ 1,00,000.00	S	Driver
		₹ 5,04,000.00		

COUNTIF	
Married	5
Single	4

- **SUMIFS**: Similar to SUMIF, but allows for multiple criteria. It adds up values in a range based on multiple conditions. For example, you could use SUMIFS to add up all sales amounts where the segment is "Consumer" and the Ship Mode is "Second Class".

	Consumer	Home Office	Corporate	Total
Second Class	₹ 2,31,498.95	₹ 81,816.42	₹ 1,45,878.20	₹ 4,59,193.57
Same Day	₹ 60,596.36	₹ 22,645.44	₹ 45,121.32	₹ 1,28,363.13
First Class	₹ 1,58,827.01	₹ 86,400.99	₹ 1,05,858.47	₹ 3,51,086.46
Same Day	₹ 60,596.36	₹ 22,645.44	₹ 45,121.32	₹ 1,28,363.13
Total	₹ 4,50,922.31	₹ 1,90,862.85	₹ 2,96,857.99	₹ 9,38,643.16

- **COUNTIFS**: Similar to COUNTIF, but allows for multiple criteria. It counts the number of cells within a range that meet multiple conditions. For instance, you could use COUNTIFS to count the number of times "Done" appears in a list of tasks assigned to a particular person.

	Consumer	Home Office	Corporate	Total
First Class	768	284	485	1537
Second Class	1020	317	608	1945
Standard Class	3086	1071	1812	5969
Same Day	317	112	114	543
Total	4874	1672	2905	9451

- **VLOOKUP**: Stands for Vertical Lookup. It searches for a value in the first column of a table and returns a value in the same row from a specified column. The syntax is `VLOOKUP(lookup_value, table_array, col_index_num, [range_lookup])`. For example, `=VLOOKUP(A2, B:C, 2, FALSE)` looks for the value in cell A2 in column B, and returns the corresponding value from column C.

Get Employee Data		Get Employee Data	
Enter Emp id	106	Enter Emp id	108
Empid	106	Empid	108
emp_name	Sarah Wilson	emp_name	Emma Taylor
Desg	Coordinator	Desg	Assistant
Dept	HR	Dept	Admin
Gender	Female	Gender	Female
city	Boston	city	Miami
payroll	45000	payroll	42000

- **HLOOKUP**: Stands for Horizontal Lookup. It works similar to VLOOKUP, but searches for a value in the first row of a table and returns a value in the same column from a specified row. The syntax is `HLOOKUP(lookup_value, table_array, row_index_num, [range_lookup])`.

C7			×	✓	f_x	=HLOOKUP("Joey",A1:G5,5				
	A	B	C	D	E	F	G	H	I	
1	Student's Name	Monica	Rachel	Phoebe	Joey	Ross	Chandler			
2	Maths	76	53	67	57	81	70			
3	Science	86	43	65	47	91	68			
4	English	87	44	72	48	92	75			
5	General Awareness	92	56	98	60	97	101			
6										
7			=HLOOKUP("Joey",A1:G5,5							
8			HLOOKUP(lookup_value, table_array, **row_index_num**, [range_lookup])							
9										

- **MATCH**: It returns the relative position of an item in a range. The syntax is `MATCH(lookup_value, lookup_array, [match_type])`. For example, `=MATCH(A1, B1:B10, 0)`

searches for the value in A1 within the range B1:B10 and returns the position of the value in the range.

List of Courses			
AIDS	CSE	IT	IOT
ai	Algorithms	web	python
ml	dasa	app	ada
nn	os	Cybersecurity	math
dl	dbms	cc	esp
nlp	cn	an	dbms

CSE
2

- **ROW**: It returns the row number of a reference. The syntax is `ROW([reference])`. For example, `=ROW(A1)` returns the row number of cell A1.

- **INDEX**: It returns the value of a cell in a specified row and column of a table or range. The syntax is `INDEX(array, row_num, [column_num])`. For example, `=INDEX(A3:D7, 0,2))` returns the value in the all rows and second column of the range A3:D7.

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ml	dasa	app	ada	dasa
nn	os	Cybersecurity	math	os
dl	dbms	cc	esp	dbms
nlp	cn	an	dbms	cn

These functions are commonly used in Excel for looking up values, finding positions, and retrieving data from tables or ranges.