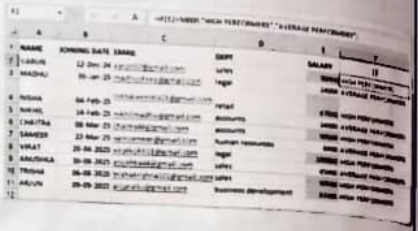
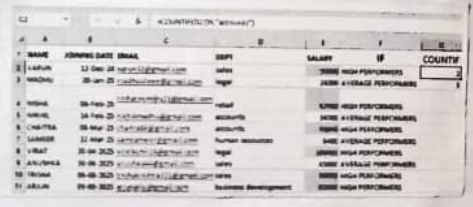
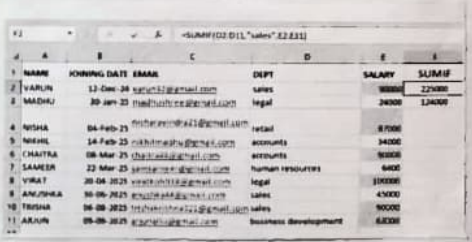
NAME	JOINING DATE	EMAIL	DEPT	SALARY
VARUN	12-Dec-24		sales	90000
MADHU	30-Jan-25		legal	24000
NISHA	04-Feb-25		retail	67000
NIKHIL	14-Feb-25		accounts	34000
CHAITRA	08-Mar-25		accounts	90000
SAMEER	22-Mar-25		human re	6400
VIRAT	20-04-2025		legal	100000
ANUSHKA	30-06-2025		sales	45000
TRISHA	06-08-2025		sales	90000
ARJUN	09-09-2025		business	63000







NAME	JOINING DATE	EMAIL	DEPT	SALARY	SUMIF
VARUN	12-Dec-24		sales	90000	225000
MADHU	30-Jan-25		legal	24000	124000
NISHA	04-Feb-25		retail	67000	
NIKHIL	14-Feb-25		accounts	34000	
CHAITRA	08-Mar-25		accounts	90000	
SAMEER	22-Mar-25		human resources	6400	
VIRAT	20-04-2025		legal	100000	
ANUSHKA	30-06-2025		sales	45000	
TRISHA	06-08-2025		sales	90000	
ARJUN	09-09-2025		business development	63000	

Date Experiment No.: 1 Page No 1

Lab program 01

CONDITIONAL FORMATTING, IF, COUNTIF, SUMIF, AVERAGE, CONCAT

1 **Conditional formatting rule**

- is used to change the appearance of cells in a range based on your specified conditions.

2 **IF function**

- is a premade function in Excel, which returns values based on true or false condition

ex : =IF(E2 > 50000; "HIGH PERFORMER"; "Average_Performer")

Syntax : =IF(logical test, [value_if_true], [value_if_false])

3 **COUNTIF function**

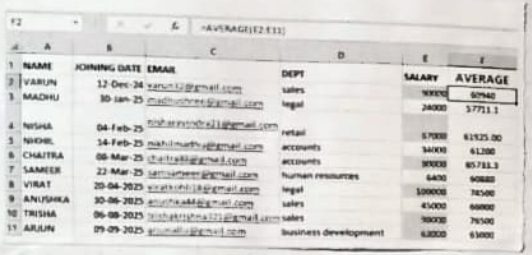
- is a predefined function in Excel, which counts cells as specified. It is typed =COUNTIF

Syntax: =COUNTIF(

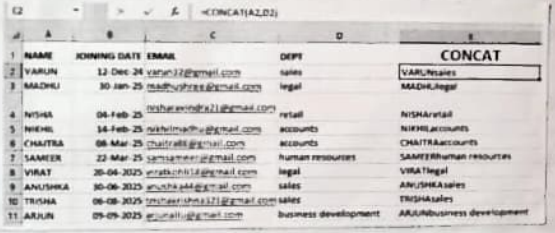
4 **SUMIF function**

- is a predefined function, which Calculates the sum of values in a range based condition

Syntax: =SUMIF(range, criteria, [sum_range])



	A	B	C	D	E	F
1	NAME	JOINING DATE	EMAIL	DEPT	SALARY	AVERAGE
2	VARUN	12-Dec-24	varun12@gmail.com	sales	90000	60940
3	MADHU	30-Jan-25	madhushree@gmail.com	legal	24000	57711.1
4	NISHA	04-Feb-25	nisharavindra21@gmail.com	retail	57000	61925.00
5	NIKHIL	14-Feb-25	nikhilmathu@gmail.com	accounts	34000	61200
6	CHAITRA	08-Mar-25	chaitra8@gmail.com	accounts	89000	85711.3
7	SAMEER	22-Mar-25	samsameer@gmail.com	human resources	6400	90888
8	VIRAT	20-04-2025	viratkohli1@gmail.com	legal	100000	78500
9	ANUSHKA	30-06-2025	anushka44@gmail.com	sales	45000	66000
10	TRISHA	06-08-2025	trishaarishra121@gmail.com	sales	78000	78500
11	ARJUN	09-09-2025	arjunali@gmail.com	business development	63000	63000



	A	B	C	D	E
1	NAME	JOINING DATE	EMAIL	DEPT	CONCAT
2	VARUN	12-Dec-24	varun12@gmail.com	sales	VARUNsales
3	MADHU	30-Jan-25	madhushree@gmail.com	legal	MADHUlegal
4	NISHA	04-Feb-25	nisharavindra21@gmail.com	retail	NISHAretail
5	NIKHIL	14-Feb-25	nikhilmathu@gmail.com	accounts	NIKHILaccounts
6	CHAITRA	08-Mar-25	chaitra8@gmail.com	accounts	CHAITRAaccounts
7	SAMEER	22-Mar-25	samsameer@gmail.com	human resources	SAMEERhuman resources
8	VIRAT	20-04-2025	viratkohli1@gmail.com	legal	VIRATlegal
9	ANUSHKA	30-06-2025	anushka44@gmail.com	sales	ANUSHKAsales
10	TRISHA	06-08-2025	trishaarishra121@gmail.com	sales	TRISHAsales
11	ARJUN	09-09-2025	arjunali@gmail.com	business development	ARJUNbusiness development

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5 AVERAGE Function

- is a premade function, which calculates the average (arithmetic mean). it is typed = AVERAGE

Syntax : =AVERAGE(num1, num2..)

6 CONCAT Function

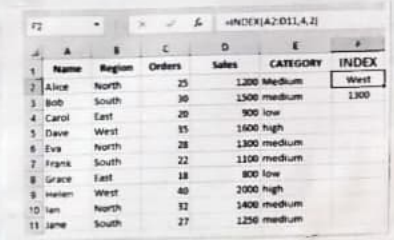
- This function is used to join multiple cells without adding any delimiters between the combined cell values. It is typed =CONCAT(.....)

Syntax: =CONCAT(cell1, delimiter, cell2)

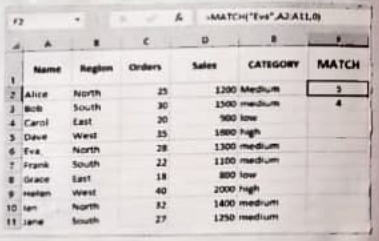
example of delimiters = comma, semicolon ; quotes " or ' braces { } pipes | slashes / \

concat - it is used to combine texts, values, numbers or cells into a continuous string

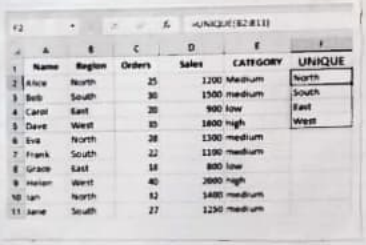
Output



	A	B	C	D	E	F
1	Name	Region	Orders	Sales	CATEGORY	INDEX
2	Alice	North	25	1200	Medium	West
3	Bob	South	30	1500	medium	1300
4	Carol	East	20	900	low	
5	Dave	West	35	1600	high	
6	Eva	North	28	1300	medium	
7	Frank	South	22	1100	medium	
8	Grace	East	18	800	low	
9	Helen	West	40	2000	high	
10	Ian	North	32	1400	medium	
11	Jane	South	27	1250	medium	



	A	B	C	D	E	F
1	Name	Region	Orders	Sales	CATEGORY	MATCH
2	Alice	North	25	1200	Medium	3
3	Bob	South	30	1500	medium	4
4	Carol	East	20	900	low	
5	Dave	West	35	1600	high	
6	Eva	North	28	1300	medium	
7	Frank	South	22	1100	medium	
8	Grace	East	18	800	low	
9	Helen	West	40	2000	high	
10	Ian	North	32	1400	medium	
11	Jane	South	27	1250	medium	



	A	B	C	D	E	F
1	Name	Region	Orders	Sales	CATEGORY	UNIQUE
2	Alice	North	25	1200	Medium	North
3	Bob	South	30	1500	medium	South
4	Carol	East	20	900	low	East
5	Dave	West	35	1600	high	West
6	Eva	North	28	1300	medium	
7	Frank	South	22	1100	medium	
8	Grace	East	18	800	low	
9	Helen	West	40	2000	high	
10	Ian	North	32	1400	medium	
11	Jane	South	27	1250	medium	

Date

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Program 02

INDEX, MATCH, UNIQUE, IFS, COUNTIFS, SUMIFS, AVERAGEIFS

1. **INDEX**

- is a function returns a value or the reference to a value from within a table or range

Syntax : =INDEX (array, row_num, [column_num])

example : =INDEX (A3:D12, 2, 2)

Array -> Array is required, it is a range of cells

row_num -> is required, selects the row in array from which to return a value

column_num -> Optional, Selects the column in array.

2. **MATCH**

- searches for a specified item in a range of cells and then returns the relative position of that item in the range

syntax

=MATCH (lookup_value, lookup_array, [match_type])

ex = MATCH (99, C11:C13, 0)

lookup_value -> The value that you want to match

lookup_array -> The range of cells

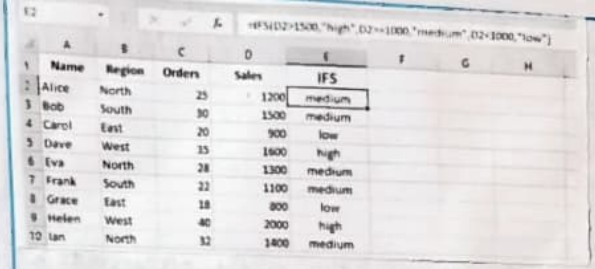
match_type -> The number -1, 0, or 1

3. **UNIQUE**

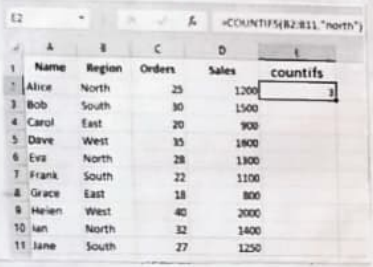
- returns a list of unique values in a list or range

Syntax : =UNIQUE (array, [by_col], [exactly_once])

example : =UNIQUE (B3:D4, false) or =UNIQUE (B3 D4, True)

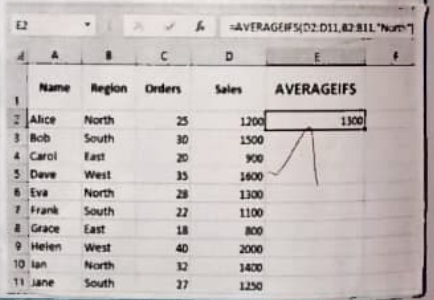


	A	B	C	D	E	F	G	H
1	Name	Region	Orders	Sales	IFS			
2	Alice	North	25	1200	medium			
3	Bob	South	30	1500	medium			
4	Carol	East	20	900	low			
5	Dave	West	35	1600	high			
6	Eva	North	28	1300	medium			
7	Frank	South	22	1100	medium			
8	Grace	East	18	800	low			
9	Helen	West	40	2000	high			
10	Ian	North	32	1400	medium			



	A	B	C	D	E
1	Name	Region	Orders	Sales	countifs
2	Alice	North	25	1200	3
3	Bob	South	30	1500	
4	Carol	East	20	900	
5	Dave	West	35	1600	
6	Eva	North	28	1300	
7	Frank	South	22	1100	
8	Grace	East	18	800	
9	Helen	West	40	2000	
10	Ian	North	32	1400	
11	Jane	South	27	1250	

	A	B	C	D	E	F
1	Name	Region	Orders	Sales	SUMIFS	
2	Alice	North	25	1200	3900	
3	Bob	South	30	1500		
4	Carol	East	20	900		
5	Dave	West	35	1600		
6	Eva	North	28	1300		
7	Frank	South	22	1100		
8	Grace	East	18	800		
9	Helen	West	40	2000		
10	Ian	North	32	1400		
11	Jane	South	27	1250		



	A	B	C	D	E	F
1	Name	Region	Orders	Sales	AVERAGEIFS	
2	Alice	North	25	1200	1300	
3	Bob	South	30	1500		
4	Carol	East	20	900		
5	Dave	West	35	1600		
6	Eva	North	28	1300		
7	Frank	South	22	1100		
8	Grace	East	18	800		
9	Helen	West	40	2000		
10	Ian	North	32	1400		
11	Jane	South	27	1250		

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4 IFS Function

- is used to check whether one or more conditions are met and returns a value that corresponds to the first true condition

Syntax = IFS (logical_test1 , Value1 [logical_test2, value2]..., [logical_test127 , value127])

Example = IFS (C3 >90, "A", C3>80, "B")

5 COUNTIFS

- is a premade function which counts cells in a range based on one or more true or false condition

Syntax =COUNTIFS (criteria_range1 , criteria1 , [criteria_range2, criteria2], ...)

example : =COU

6 SUMIFS Function

- is a premade function in Excel, which Calculates the sum of a range based one or more true or false condition

Syntax = sumifs (sum_range, criteria_range1, criteria1, [criteria_range 2, criteria 2], ...)

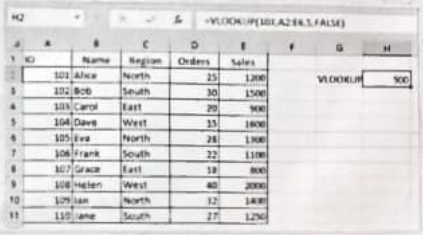
7 AverageIFS Function

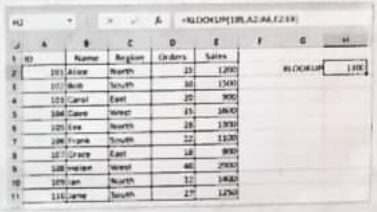
- is a function which Calculates the average of a range based on one or more true or false condition.

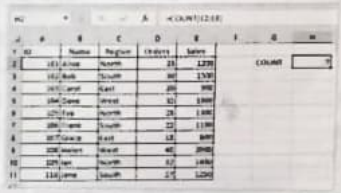
Syntax:

= Averageifs (average_range, criteria_range1, criteria1)

Output:







Date

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Lab program 3

VLOOKUP, HLOOKUP, XLOOKUP, COUNT, COUNTA

1 **VLOOKUP**

- Stands for vertical lookup, that is responsible for looking for a particular value in the left most column of a table, it then return a value in the same row from a column you specify

Syntax

=VLOOKUP(lookup_value, table_array, col_index_num, [range_lookup])

-> lookup_value = look for first column of a table
-> table = the table from which the value is retrieved
-> range_lookup = Exact match (0) or true

example = VLOOKUP(A2; A1:E8; 3)

2 **XLOOKUP**

- searches a range or an array and then returns the item corresponding to the first match it finds, if no match exists, then xlookup can return the closet match.

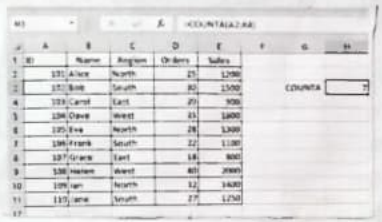
Syntax

=XLOOKUP(lookup_value, lookup_array, return_array, [if_not_found], [match_mode], [search_mode])

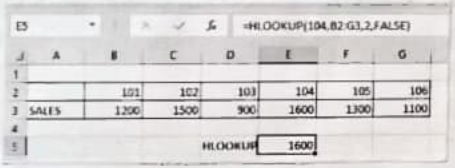
example = xlookup(105, B1:F1, B3:F3)

3 **COUNT**

- this function is generally used to count a range of cells containing numbers or data excluding blanks



	A	B	C	D	E	F	G	H
1	ID	Name	Region	Orders	Sales			
2	101	Alice	North	25	1250			
3	102	Bob	South	30	1500		COUNTA	7
4	103	Carol	East	20	900			
5	104	Dave	West	35	1600			
6	105	Eve	North	28	1300			
7	106	Frank	South	22	1100			
8	107	Grace	East	18	800			
9	108	Helen	West	40	2000			
10	109	Ian	North	32	1600			
11	110	Jane	South	27	1250			



E5 =HLOOKUP(104,B2:G3,2,FALSE)

	A	B	C	D	E	F	G
1							
2		101	102	103	104	105	106
3	SALES	1200	1500	900	1600	1300	1100
4							
5				HLOOKUP	1600		

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Syntax :

= COUNT (value1 , [value2] ..)

example

= COUNT (B2 : B14)

4. COUNTA Function

- counts the number of cells that are not empty in a range

Syntax :

= COUNTA (value1 , [value2] .. ,)

example

= COUNTA (B2 : B14)

5. HLOOKUP Function

- Stands for Horizontal Lookup. this function makes Excel search for a certain value in a row (the so called table array) in order to return a value from a different row in the same column.

Syntax

= HLOOKUP ([value], [range], [row number], [False or true])

Output

D2 =LEFT(A2,4)

	A	B	C	D	E
1	DATA			FORMULA	
2	manisha		LEFT	mani	

D2 =RIGHT(A2,3)

	A	B	C	D
1	DATA			FORMULA
2	nanditha		RIGHT	tha

D2 =MID(A2,1,4)

	A	B	C	D
1	DATA			FORMULA
2	bhavani		MID	bhav
3				

D2 =LEN(A2)

	A	B	C	D
1	DATA			FORMULA
2	kamalesha		LEN	9

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Lab program 04

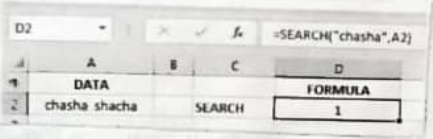
LEFT, MID, RIGHT, LEN, SUBSTITUTE, SEARCH, ISNUMBER

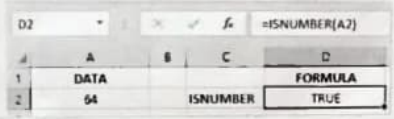
1. LEFT Function — Extracts a specific number of characters from the end of an Excel cell text string
   - is used to retrieve a chosen amount of characters counting from left side of an Excel cell. The chosen number has to be greater than 0 and is set to 1 by default
   syntax : =LEFT(text, [num_chars])
   example =LEFT(A2) or =LEFT(A2;3)

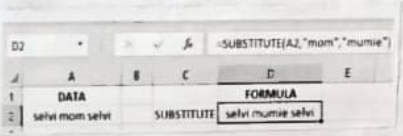
2. RIGHT Function
   - will return a specified num of char from the end of a given text string. generally it is used by combining it with other function value, sum, count, Date, etc....
   Syntax =RIGHT(text, [num_chars])
   example: =RIGHT(A2;3)

3. MID Function
   - is designed to pull a substring from the middle of the original text string
   Syntax = MID(text, start_num, num_chars)
   example: MID(A2;2;3)

4. LEN Function
   - it returns the num of characters in a text string
   Syntax: =LEN(text)
   example: =LEN(A2)







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5 SEARCH Function

- locate one text string within a second text string and return the num of the starting position of the first text string and second.

Syntax : = SEARCH (find_text, within_text [start_num])

example : = SEARCH ("n", Binter")

6 ISNUMBER Function

- This function checks if a cell in Excel contain a num or not. it will return true if the value a not false value.

Syntax = ISNUMBER (value)

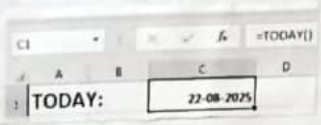
7 SUBSTITUTE Function

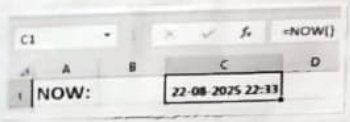
- Substitute function substitutes new_text for old_text in a text string ; use substitute when you want to replace specific text in text string REPLACE you want to replace in text string

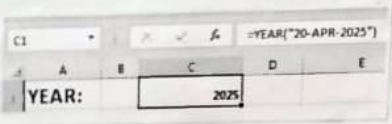
Syntax = SUBSTITUTE (text, old_text, new_text, [instance_num])

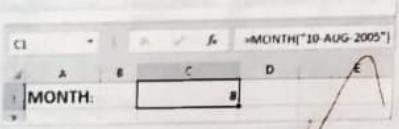
we used to find the position of one text inside another text

Output









Date

Experiment No. 5

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Lab program 05

TODAY, NOW, YEAR, MONTH, NETWORKDAYS, EOMONTH

1. TODAY Function
   - returns the serial number of the current date in Excel. The Today function updates automatically.
   Syntax = TODAY()

2. NOW Function
   - returns the serial num of current date and time. the now function is considered 'volatile' meaning that it updates automatically worksheet is opened whenever
   Syntax: = NOW()

3. YEAR function
   - returns the year corresponding to a date. This can be useful for isolating the year element of a date
   Syntax: =YEAR (serial-num)

4. MONTH Function
   - returns the nth month of the year ranging from 1 to 12. This can be useful for isolating the month element of a date
   Syntax: =MONTH (serial-num)

E1 =NETWORKDAYS("01-AUG-2025","21-AUG-2025",{"15-AUG-2025"})

	A	B	C	D	E	F	G	H	I	J
1	NETWORKDAYS FUNCTION:				14					
2										

C1 =EOMONTH(A5,1)

	A	B	C	D	E
1	EOMONTH:		30-09-2023		
2					
3					
4	DATE	YEAR	MONTH		
5	12-06-2023	2006	1		
6	20,JAN,2001	2001	12		
7	03-12-2025	2025	4		
8	24-Apr-07	2007	8		
9	2005,8,4	2005	9		

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5 NETWORKDAYS Function

- Used to determine the number of working days between two date the formula calculate the days in an inclusive manner, meaning that the start and end days are included in the count

Syntax

= NETWORKDAYS (start_date, end_date, [holiday])

Start_date = represents the start date
End_date = represents the end date
Holiday = the range of dates to be excluded from the working day calculation

6 EOMONTH Function

- determines the last day of an earlier or later month than the month being references

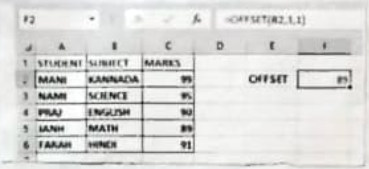
Syntax

= EOMONTH (start_date, months)

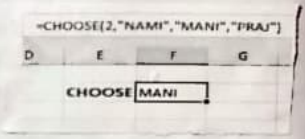
Last date of the month after add/sub months from given date

no of working days between 2 days

Output :

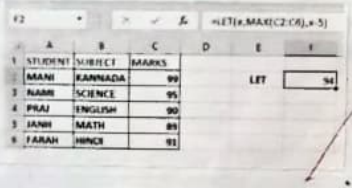


	A	B	C	D	E	F
1	STUDENT	SUBJECT	MARKS			
2	MANI	KANNADA	99		OFFSET	89
3	NAMI	SCIENCE	95			
4	PRAJ	ENGLISH	90			
5	JANH	MATH	89			
6	FARAH	HINDI	91			



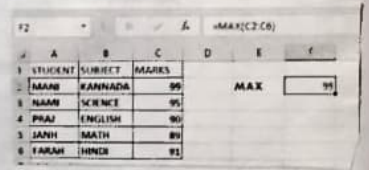
=CHOOSE(2,"NAMI","MANI","PRAJ")

D	E	F	G
	CHOOSE	MANI	



=LET(x,MAX(C2:C6),x-5)

	A	B	C	D	E	F
1	STUDENT	SUBJECT	MARKS			
2	MANI	KANNADA	99		LET	94
3	NAMI	SCIENCE	95			
4	PRAJ	ENGLISH	90			
5	JANH	MATH	89			
6	FARAH	HINDI	91			



=MAX(C2:C6)

	A	B	C	D	E	F
1	STUDENT	SUBJECT	MARKS			
2	MANI	KANNADA	99		MAX	99
3	NAMI	SCIENCE	95			
4	PRAJ	ENGLISH	90			
5	JANH	MATH	89			
6	FARAH	HINDI	91			

Date

Experiment No. 06

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Program 06

OFFSET, CHOOSE, LET, MAX, SORT, SORTBY, RANK

1 OFFSET function

- returns a cell or range of cells that is a given number of rows and columns from a given cell or range

Syntax OFFSET (reference, rows, cols, [height], [width])

ex : =OFFSET (A1, 3, 1)

reference - a cell or range of adjacent cells from which you base the offset

rows - The no of rows to move from straightpoint, up or down

cols - The no of cols you want the formula to move starting

2 CHOOSE function

- returns a value from a list using a given position or index.

Syntax : =CHOOSE (index_num, value1, [value2],)

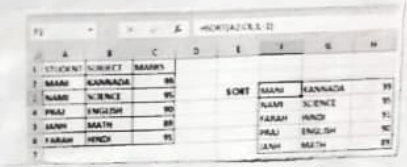
3 LET function

- allows you to assign names to calculation results and define variables inside a formula to that the formula looks clear and works faster.

Syntax : LET (name1, name_value1, [name2], [name_value2], calculation)

4 MAX function

- is a premade function, which finds the highest number in a range. The function ignores cells with text



STUDENT	SUBJECT	MARKS
MANI	KANNADA	99
NAMI	SCIENCE	95
PRAJ	ENGLISH	90
JANH	MATH	89
FARAH	HINDI	91

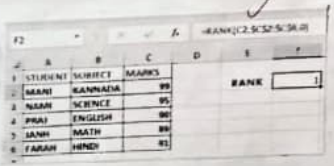
SORT

MANI	KANNADA
NAMI	SCIENCE
FARAH	HINDI
PRAJ	ENGLISH
JANH	MATH

STUDENT	SUBJECT	MARKS
MANI	KANNADA	99
NAMI	SCIENCE	95
PRAJ	ENGLISH	90
JANH	MATH	89
FARAH	HINDI	91

SORTBY;DECS:

MANI
NAMI
FARAH
PRAJ
JANH



STUDENT	SUBJECT	MARKS
MANI	KANNADA	99
NAMI	SCIENCE	95
PRAJ	ENGLISH	90
JANH	MATH	89
FARAH	HINDI	91

RANK 1

Date

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it will only work with numbers

Syntax : =MAX(C2:C7)

5 SORT Function

- Ranges can be sorted using the SORT ascending and descending commands. The SORT commands work for text too, using A-Z order.

Syntax: SORT(A2:D22)

6 SORTby Function

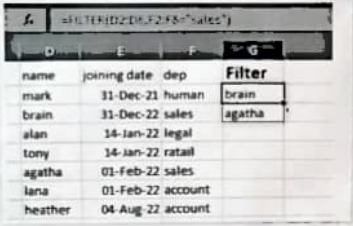
- is designed to sort one range or array based on the values in another range or array. Sorting can be done by one or multiple columns.

Syntax: SORTBY(array, by_array1, [sort_order1], [by_array2, sort_order2], ...)

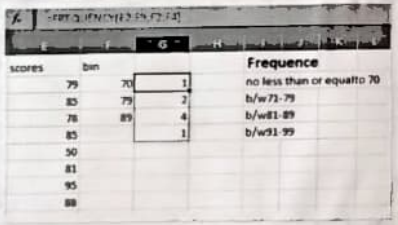
7 Rank Function

- returns the rank of a number in a list of numbers. The rank of a number is its size relative to other values in a list.

Syntax: RANK(number, ref, [order])



name	joining date	dep	Filter
mark	31-Dec-21	human	brain
brain	31-Dec-22	sales	agatha
alan	14-Jan-22	legal	
tony	14-Jan-22	retail	
agatha	01-Feb-22	sales	
lana	01-Feb-22	account	
heather	04-Aug-22	account	



scores	bin		Frequence
79	70	1	no less than or equal to 70
85	79	2	b/w 71-79
78	89	4	b/w 81-89
85		1	b/w 91-99
50			
81			
95			
88			

Sequence

0	5	10	15	20
25	30	35	40	45
50	55	60	65	70
75	80	85	90	95

Rand array

0.066373	0.712263	0.126761	0.844975
0.041398	0.783772	0.108742	0.075014
10	9	9	
8	10	10	
8	8	10	

Date

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Program 07

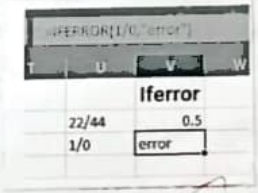
Filter, Frequency, Sequence, Randarray, Iferror

1. Filter function
   - allows you to filter a range of data based on criteria you define
   Syntax - =FILTER(array, include, [if_empty])
   Example - =FILTER(D2:D8, F2:F8="sales")

2. Frequency function
   - Calculates how often values occurs within a range of value and the returns a vertical array of numbers
   Syntax - =FREQUENCY(data_array, bins_array)
   Example - =FREQUENCY(E2:E9, F2:F9)

3. Sequence function
   - allows you to generate a list of sequential numbers in array such that 1, 2, 3, 4
   Syntax - =Sequence([rows], [cols], [start], [step])
   Example - =Sequence(4, 5, 0, 5)

4. Randarray
   - returns an array of numbers, in random or returns an array of random numbers, you can specify the number of rows & cols to fill, min, max, value and whether to return whole numbers or decimal values



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Syntax : Pandarray (rows), (columns), (min) (max), (whole num))

Example : Pandarray (3, 3, 8, 10, True)

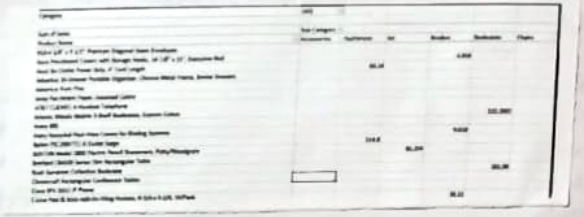
5 IFERROR function

is used to trap and handle errors in formula. It returns a value you specify if a formula evaluates to error; other wise it returns the result of the formula.

Syntax : IFERROR (value, value_if_error)

Example - IFERROR (1/0, "error")

Output



GOAL SEEK	
Bottle uni	800
Price	10000
Total	8000000

		60000	300	400	500
Items	200	100	30000	40000	50000
Price	300	200	60000	80000	100000
Total	60000	300	90000	120000	150000

	0 Furniture	Bookcase	Bush Som	261.96	1
	Furniture	Chairs	Hon Delu	731.94	
	Furniture	Tables	Bretford (	957.578	
	Furniture	Furnishin	Eldon Exp	48.86	
	Furniture	Tables	Chromcra	1706.38	
Furniture	0			3444.56	Furniture Total
	Office Su	Labels	Self Adhe	14.62	
	Office Su	Storage	Eldon Fol	22.368	
	Office Su	Art	Newell 3(	7.28	
	Office Su	Binders	DXL Angl	18.504	
	Office Su	Appliance	Belkin F5	114.9	
	Office Su	Paper	Xerox 19	15.552	
Office Su	0			193.224	Office Supplies Total
	Technolo	Phones	Mitel 532	907.152	
	Technolo	Phones	Konftel 2	911.424	
Technolo	0			1818.58	Technology Total
Grand Tot	0			5456.36	Grand Total

Date

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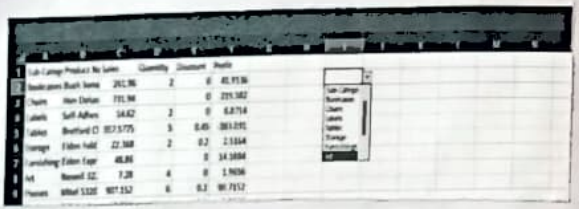
Program 08

PIVOT TABLES, WHAT-IF ANALYSIS, DATA VALIDATION, SUBTOTALS WITH RANGES

1. PIVOT TABLES
   - is a powerful tool to calculate, summarize and analyse data that lets you see comparisons, patterns and trends in your data
   a. Enter the data in Google sheet
   b. Go to insert tab and click on pivot Table then it displays the dialogue box
   c. Select the rows and columns and values

2. WHAT-IF-ANALYSIS
   - various situations or scenarios are contemplated through the manipulation of variables

   How to use Goal Seek in Google Sheets
   a. Open Google Sheets and go to Extension > Addis ons > Get add-ons
   b. You will see the Goal seek sidebar on the left of your spreadsheet, including "settings", "solve status", and "history".
   c. Click on the cell containing the profit formula then click on the grid icon beside "set cell" in sidebar
   d. Click on cell containing the value you want Goal seek to change, then click on the grid icon beside "By changing cell" in the sidebar



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e) To change the name of tolerance and/or, the time limit, click on "Options".
f) Once everything is ready, click "Solve". It take a minutes to calculate the solution.

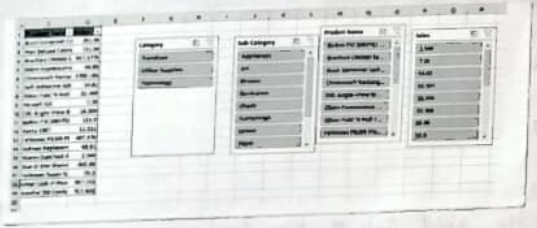
3. How to use Data Validation in Google sheets

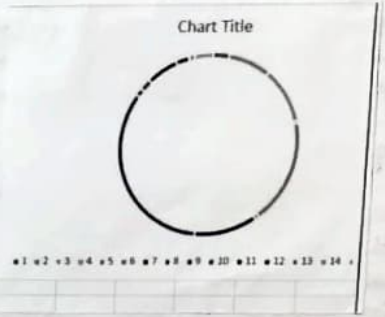
a) Go to "Data" tab, click "Data Validation" & get a dialog box on the right side of the sheet
b) click + Add rule
c) Select a range where you want to make Data Validation
d) Choose one of the criteria & input values according to criteria
e) Check the advanced option of "Show help text for a selected cell".
f) Choose on of two options
g) click "Done" to make the setting effective.

4. Subtotals with Ranges
- you can automatically calculate subtotals & grandtotals in a list for a column by using subtotal command

a) Sort the data in descending order using sort option in Data tab. Sort on region data
b) Click on subtotal option from data tab -> select region in at each value change field.
c) Use function -> select Sum
d) Add subtotal to -> select Sum
e) You will get subtotal region wise.

Output





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Program 09

Develop an interactive Dashboard for the financial Sample Excel workbook

Step 1: Problem Statements (Goals)

1. Category wise profit
2. Region wise profit
3. Segment wise profit
   - Doughnut chart
4. what are the total sales by segment in each/all years?
5. what is the total sales in different/all Categories
6. what is the total sales in different/all Region - Barchart
7. what are the profit and sales in different regions - Barchart
8. what is total quantity in different/all Categories - pie chart

Steps to create a Dashboard on Sample Superstore

1. Data cleaning:
   a) Add filters to all the columns
   b) For each column check the filters for any data such as blank cells, incorrect data etc
   c) If any anomalies correct them manually.

2. For every goal defined above do the analysis in the following manner
3. Copy all the charts create by following steps into a new sheet Name the sheet as Excel Dashboard.

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4. In this Excel Dashboard sheet : go to pivot chart tools ribbon → select Analyze option → select insert slicer → select columns on which you need to insert slicer

5. Connect all the slicer using following steps
Go to slicer tools → check on options → select pivot table connections → check all the pivot tables you need to connect

6. This dashboard will be interactive when you select data from the slicer, your charts will dynamically update to display the selected options.