Department of Information Technology
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ITC1370: Information Technology for Business

This tutorial covers the following subtopics under the Spreadsheet Applications

Main Topic	Spreadsheet Applications
Subtopics	1. Introduction to the Spreadsheets Applications (Basic and Conditional Formating / CellReferencing) 2. Application of MS Excel Functions for business uses (Basic functions) 3. Application of logical, lookup and reference functions in data processing 4. Perform Data analysis and summarization using Sort and Filter 5. Introduction to financial data analysis 6. Use data validation in MS Excel 7. Perform Data analysis and summarization using Pivot table and charts 8. Introduction to what-if analysis (Solver, Goal Seek, Scenario Manager, Data Tables) 9. VBA

How to follow this tutorial?

This tutorial consists of four (04) components; guided practical activities, self-study works, self-practical activities and direction to more information.

	Guided practical activities are the practical activities that are done during the practical lab sessions.
	Self-study work is a mandatory activity, and it will help the students to gain further knowledge on the topic.
	Self-practical activity is a mandatory practical activity, and it will help students to improve their practical skill on the topic.
	Direction to more information helps student to find more on the topic and improve the knowledge and understanding on the topic

01: Introduction to the Spreadsheets Applications

Overview

Spreadsheets application is a computer application that can capture, display, and manipulate data in a grid of cells arranged in rows and columns. Each cell can contain text, numbers, formulas, or other data types. Users can enter data manually, import data from external sources, or use formulas and functions to calculate values based on existing data. Spreadsheet is commonly used in businesses, finance, accounting, research, and other fields where there is a need to manage and analyze numerical data. Moreover, latest cloud-based spreadsheet applications facilitate collaborative work activities and provide data protection and auditing features. Some of the practical applications of spreadsheet applications in business environment are but not limited to

- Store data such as employee details, product details etc.
- Perform financial analysis (NPV, RR etc.) and generate financial statements
- Data filtering and analysis such as sales summary and trends
- To prepare budgets
- Visually present business data using tables and charts for decision making

1. Introduction to Spreadsheet - support.microsoft.com
2. Top 10 Uses of Microsoft Excel in Business

Following activities will help students to refresh the existing practical skills in spreadsheet application and familiarize the basics of a spreadsheet application such as getting start, formatting, settings, formulas with cell referencing using different spreadsheet applications. Further it will facilitate identifying the available features and capabilities in different spreadsheet applications.

Activity 01.1

There are a variety of spreadsheet applications available in the market. You are required to list examples for spreadsheet applications under below mentioned types.

Software Type	Examples for spreadsheet applications
Licensed software	
Free and Open-Source Software (FOSS)	
Collaborative applications	
Mobile applications	

Activity 01.2

Following is a bill issued by ABC Bake House for a customer. Use the *"Activity 01.2" Sheet* in "01 SS-Activities Data.xlsx" file, perform the below actions to create a similar bill.

ABC Bake House
Main Street, Nugegoda

Customer Name: Mr. Kamal Siriwardena
Date: Monday, January 22, 2024

Bill No:0010

Item No	Product name	Unit price	Quantity bought	Total price	Discount	Discounted price
P001	Chocolate cake	Rs. 1,800.00	2	Rs. 3,600.00	Rs. 180.00	Rs. 3,420.00
P002	Butter Cake	Rs. 1,500.00	1	Rs. 1,500.00	Rs. 75.00	Rs. 1,425.00
P003	Ribbon Cake	Rs. 2,000.00	4	Rs. 8,000.00	Rs. 400.00	Rs. 7,600.00
P004	Marble Cake	Rs. 1,750.00	2	Rs. 3,500.00	Rs. 175.00	Rs. 3,325.00
		Total:	9	Rs. 16,600.00	Rs. 830.00	Rs. 15,770.00

Discount **5%**

1. Modify the table as given in the above diagram.
2. All prices are in SL Rs., and it should be display with the price values.
3. Fill in the remaining item numbers using the "Auto fill" option.
4. Calculate the total price, discount, and discounted price for each product.
5. Calculate total the grand totals of quantity, total price discount and discounted price.
6. What are the practical limitations of this bill template?

Activity 01.3

Following is an extract taken from the orders received by ABC (Pvt) Ltd. Use the *"Activity 01.3" Sheet* in "01 SS-Activities Data.xlsx" file and perform the below actions using conditional formatting.

ABC Pvt (Ltd.)

Order Details

OrderDate	Province	Rep	Item	Units	Unit Cost	Total
1/6/2023	Eastern	Kamal	Pencil	95	Rs. 1.99	Rs. 189.1
1/23/2023	Central	Sarath	Binder	50	Rs. 19.99	Rs. 999.5
2/9/2023	Central	Kushan	Pencil	36	Rs. 4.99	Rs. 179.6
2/26/2023	Central	Aslam	Pen	27	Rs. 19.99	Rs. 539.7
3/15/2023	Western	Jeram	Pencil	56	Rs. 2.99	Rs. 167.4
4/1/2023	Eastern	Kamal	Binder	60	Rs. 4.99	Rs. 299.4
4/18/2023	Central	Sarath	Pencil	75	Rs. 1.99	Rs. 149.3
5/5/2023	Central	Jegan	Pencil	90	Rs. 4.99	Rs. 449.1
5/22/2023	Western	Abdullah	Pencil	32	Rs. 1.99	Rs. 63.7
6/8/2023	Eastern	John	Binder	60	Rs. 8.99	Rs. 539.4
6/25/2023	Central	Kushan	Pencil	90	Rs. 4.99	Rs. 449.1
7/12/2023	Eastern	Samantha	Binder	29	Rs. 1.99	Rs. 57.7

1. Select the orders received from the Western province.
2. Apply data bars based on the minimum and maximum number of units.
3. Apply two color-scale based on minimum and maximum unit cost.
4. Apply icon sets based on the following criteria to the Total column.

Condition for the Total Amount	Color
Greater than Rs. 500	Red
Between Rs. 150 and Rs. 500	Yellow
Less than Rs. 150	Green

Self-Learning Activity

Activity 01.4: Perform activity 02 using Google Sheets.

Activity 01.5: Design a multiplication table 1-100 and apply suitable freeze panes to facilitate navigation through the table.

Activity 01.6: Following is the summary of salary payments for employees in a company. Use the *"Activity 01.5"* sheet available at "01 SS-Activities Data.xlsx" file to perform the below actions to create a similar summary.

	A	B	C	D	E	F	G	H	I
1									
2	**January Month Employee Salary Details**								
3	**Employee no**	**Last Name**	**Initials**	**Fullname**	**Basic Salary**	**Allowances**	**Total Earnings**	**Tax**	**Net Salary**
4	EMP01	Amal	AHK	AHK Amal	LKR 50,000.00	LKR 10,000.00	LKR 60,000.00	LKR 5,000.00	LKR 55,000.00
5	EMP02	Fathima	S	S Fathima	LKR 62,000.00	LKR 15,000.00	LKR 77,000.00	LKR 6,200.00	LKR 70,800.00
6	EMP03	Perera	CV	CV Perera	LKR 78,000.00	LKR 12,000.00	LKR 90,000.00	LKR 7,800.00	LKR 82,200.00
7	EMP04	Jude	RR	RR Jude	LKR 55,000.00	LKR 12,000.00	LKR 67,000.00	LKR 5,500.00	LKR 61,500.00
8	EMP05	Ann	KP	KP Ann	LKR 45,000.00	LKR 6,000.00	LKR 51,000.00	LKR 4,500.00	LKR 46,500.00
9									
10	**Tax rate**	**10%**							

1. Modify the table as given in the above diagram.
2. Convert Tax rate in cell B10 to a percentage.
3. All values are in LKR, and it should be display with the values.
4. Fill in the remaining employee numbers using the "Auto fill" option.
5. Calculate the total earnings for each employee.
6. Find the tax amount to be deducted from each employee if 10% tax is applied to their basic salaries.
7. Calculate the net salary for each employee.

Activity 01.7:

Following is the annual sales report of ECU Company. Use the "Activity 01.7" Sheet in "01 SS-Activities for students.xlsx" file, and perform the below actions to create a similar report.

	A	B	C	D	E	F	G	H	I	J	K	L
1												
2	**ECU Company** Annual Sales Report											
3	Month		January	February	March	April	May	June	July	August		
4	Branch	Nawala	Rs. 129,139.00	Rs. 307,763.00	Rs. 319,624.00	Rs. 490,622.00	Rs. 331,262.00	Rs. 363,120.00	Rs. 221,149.00	Rs. 447,173.00		
5		Delkanda	Rs. 307,616.00	Rs. 439,608.00	Rs. 372,911.00	Rs. 458,387.00	Rs. 356,349.00	Rs. 191,726.00	Rs. 211,993.00	Rs. 414,083.00		
6		Rathnapura	Rs. 458,828.00	Rs. 193,911.00	Rs. 236,733.00	Rs. 426,152.00	Rs. 286,725.00	Rs. 404,189.00	Rs. 300,688.00	Rs. 201,997.00		
7		Matara	Rs. 358,499.00	Rs. 385,759.00	Rs. 210,294.00	Rs. 393,917.00	Rs. 280,241.67	Rs. 137,803.00	Rs. 322,907.00	Rs. 156,032.00		
8		Kandy	Rs. 474,982.00	Rs. 439,352.00	Rs. 420,997.00	Rs. 361,682.00	Rs. 257,973.17	Rs. 489,467.00	Rs. 103,737.00	Rs. 408,034.00		
9		Negambo	Rs. 335,548.00	Rs. 244,815.00	Rs. 312,221.00	Rs. 329,447.00	Rs. 235,704.67	Rs. 315,517.00	Rs. 475,654.00	Rs. 176,199.00		
10		Anuradhapura	Rs. 297,038.00	Rs. 340,236.00	Rs. 111,074.00	Rs. 297,212.00	Rs. 213,436.17	Rs. 224,907.00	Rs. 141,318.00	Rs. 278,489.00		
11		Ampara	Rs. 416,315.00	Rs. 174,574.00	Rs. 199,323.00	Rs. 264,977.00	Rs. 191,167.67	Rs. 446,872.00	Rs. 462,746.00	Rs. 411,415.00		
12		Jaffna	Rs. 131,088.00	Rs. 224,298.00	Rs. 492,213.00	Rs. 232,742.00	Rs. 168,899.17	Rs. 157,388.00	Rs. 117,652.00	Rs. 171,955.00		
13		Kalutara	Rs. 349,688.00	Rs. 150,656.00	Rs. 303,700.00	Rs. 200,507.00	Rs. 146,630.67	Rs. 100,485.00	Rs. 300,113.00	Rs. 424,714.00		
14	Total		Rs. 3,258,741.00	Rs. 2,900,972.00	Rs. 2,979,090.00	Rs. 3,455,645.00	Rs. 2,468,389.17	Rs. 2,831,474.00	Rs. 2,657,957.00	Rs. 3,090,091.00	Grand Total	Rs. 23,642,359.17
15												
16												
17	Created on	Monday, February 5, 2024										

1. Modify the table as given in the above diagram.
2. Complete the months in the table using auto fill method.
3. Convert all sales revenues as currency values and set Rs. as currency type.
4. Apply conditional formatting according to the figure.
   Note: For the "December" sales column, all the data that are greater than or equal to 700 are set in green dots, other data that are less than 700 and greater than or equal to 200 are set in yellow dots and the remaining data should be set in red dots.

Range	Color
Sales greater than Rs. 400,000.00	Green
Sales values between Rs. 400,000.00 and Rs. 300,000.00	Yellow
Sales values less than Rs. 300,000.00	Red

5. Calculate the total sales of every month (14th row).
6. Calculate the grand total sales of the whole year.