



M3: Representation on Spreadsheet-I

Mr. J. Mishra
MGCUB, INDIA

Objectives

Introduction

Importance

Softwares

File Extension

LibreOffice Calc

Acquainted Spreadsheet

Workbook Management

Worksheet Manipulation

Document Protection

Exercise

References

Number Representation on Spreadsheet-I

Introduction to Spreadsheet

Course: Master of Arts (Hindi)

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Outline

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Objectives

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Objectives

- Description of Spreadsheet, Workbook, Worksheet
- Study on Workbook management and manipulation
- Study on document protection



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Introduction

- Spreadsheet is a special type of application software which store, analyze the data in tabular format.
- Spreadsheet documents are called as workbook and pages inside it called as worksheet.
- The worksheet contains the large number of rows and column to store data in tabular format. In this tabular storage page, each smallest room contains a specific information and called as cell.
- Spreadsheet application software Libre Office Calc v6.2 has 2^{10} or 1024 number of columns i.e. AMJ and 2^{20} or 1, 048, 576 number of rows in a single sheet.
- Spreadsheet application software Microsoft Excel 2019 has 2^{14} or 16, 384 number of columns i.e. XFD and 2^{20} or 1, 048, 576 number of rows in a single sheet.



Importance

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Importance

- The similar form of data (raw information) based on data attribute, or information could be stored in record form, where column wise similar attribute are stored and row wise samples (individual/each person) are changed.
- Due to similarity of data attribute(property), only row wise searching could reach us to the required sample.
- Data retrieve are very easy compared to the other non-tabular formatted application softwares as Word/Writer. Though, these softwares could provide the partial table creation capability.
- Whole spreadsheet are loaded for first time whenever saved datasheet are opened, hence, it may take large time for large volume of data. The loading of whole data simultaneously also reduces the working capability of the application platform compared to MySQL, Oracle database.



Spreadsheet Softwares[1]

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Microsoft Office: Excel

- It is developed by Microsoft for Windows, macOS, Android. It facilitates calculation, graphing tools, pivot tables, and a macro programming in Visual Basic programming language.

Libre Office: Calc

- It is an open source office productivity software suite. After the OpenOffice.org (developed by IBM Lotus Symphony), LibreOffice Calc has improved many tools and facilitates large calculations in spreadsheet.

Google Docs: Sheets

- Google Sheets is a spreadsheet program included as part of a free, web-based software office suite offered by Google within its Google Drive service.

WPS Office: Excel

- WPS(Writer, Presentation and Spreadsheets) Office is an office suite for Microsoft Windows, macOS, Linux, iOS and Android, developed by Zhuhai-based Chinese software developer Kingsoft. Specially used on Android OS.



File Extension[1]

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eXcel Spreadsheet (XLS)

- Microsoft Excel workbook file extension. This file format is known as the Binary Interchange File Format (BIFF).

XLSX

- XLSX is a file extension for an open XML spreadsheet file format used by Microsoft Excel. Microsoft introduced the open XML standard to Microsoft Office in 2007 after a push from business users who saw the value in an open file format for transferring data between applications and other areas of working with the files. This file format available after Microsoft Office 2007 package.

Comma Separated Values (CSV)

- Data are stored in a text file separated by comma or any special character (in advance case) and could be opened by any spreadsheet software or text editor. This file format mainly used by hardware oriented data collectin devices for easy to acces.

Portable Document Format (PDF)

- It was developed by Adobe in the 1990s to present documents, including text formatting and images, in a manner independent of application software, hardware, and operating systems. Based on the PostScript language, each PDF file encapsulates a complete description of a fixed-layout flat document, including the text, fonts, vector graphics, raster images and other information needed to display it.



LibreOffice Calc[2][3]

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- LibreOffice is a free and powerful office suite, and a successor to OpenOffice.org (commonly known as OpenOffice).
- LibreOffice Calc files are called workbook which contains number of spreadsheets and actual information is stored inside the cells of a single spreadsheet.
- It stores the spreadsheet document with ODS extension.



Acquinted Spreadsheet

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The screenshot displays the LibreOffice Calc application window titled "Untitled 1.ods". The interface includes a menu bar (File, Edit, View, Insert, Format, Styles, Sheet, Data, Tools, Window, Help), a toolbar with various icons, and a spreadsheet grid. The spreadsheet contains a table with the following data:

1	Roll No	Name	Course	Email	Mob No	FirstSemester	SecondSemester	ThirdSemester
2	MGCUBHIND2001	AAA	MAHI	XXXXXX				
3	MGCUBHIND2002	BBB	MAHI	XXXXXX				
4	MGCUBHIND2003	CCC	MAHI	XXXXXX				
5	MGCUBHIND2004	DDD	MAHI	XXXXXX			XXXXX	
6	MGCUBHIND2005	EEE	MAHI	XXXXXX				
7	MGCUBHIND2006	FFF	MAHI	XXXXXX		YYYYY		
8	MGCUBHIND2007	GGG	MAHI	XXXXXX		YYYYY		
9	MGCUBHIND2008	HHH	MAHI	XXXXXX		YYYYY		
10	MGCUBHIND2009	III	MAHI	XXXXXX		YYYYY		
11	MGCUBHIND2010	JJJ	MAHI	XXXXXX		YYYYY		
12	MGCUBHIND2011	KKK	MAHI	XXXXXX		YYYYY		
13	MGCUBHIND2012	LLL	MAHI	XXXXXX		YYYYY		
14								
15								
16								
17								
18								
19								

Annotations in the image include:

- Menubar**: Points to the menu bar at the top.
- Cell: G6**: Points to the cell containing "XXXXX" in the second semester column of row 6.
- Quick Access Toolbar**: Points to the toolbar icons at the top left.
- Freezed Row**: Points to the first row of the data table (row 2).
- Worksheet**: Points to the spreadsheet grid area.
- Database: B3:D11**: Points to the range of cells containing student data.
- List: F7:F12**: Points to the range of cells containing semester data.

Figure 1: LibreOffice Calc spreadsheet window description



Workbook Management

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Workbook Management

- Document creation
- Document saving
- Document renaming
- Insert sheet in workbook
- Worksheet full screen view



Worksheet Manipulation

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Worksheet Formatting

- Text font, size, alignments, text colors formatting
- Formatting cells with different data formats
- Set borders to cells
- Set foreground background colors of cells
- Paste special(transpose, paste linked formula)
- Comments on cells
- Data sorting

Worksheet Proofing

- Autofill Feature
- Auto Correct
- Data Validation
- Auto Complete



Document Protection

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Document Protection

- Workbook Protection
- Worksheet Protection

Workbook Protection

Create document → Store and modify information → File menu → Save Workbook → Save with password.

Worksheet Protection

Create document → Store Information → Select Worksheet to be protected → Tools menu → Protect Sheet → Set password and permissions → Save whole document.



Exercise

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- What is spreadsheet? Give some software names of it.
- What are the benefits of spreadsheet softwares?
- Describe requirement of spreadsheet software over word/writer software.
- What is the difference between workbook and worksheet?



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Thank You...