Advanced Information Technology (AICITSS)

Practice Manual

Board of Studies
The Institute of Chartered Accountants of India

New Delhi

The objective of this background material is to provide uniform reference material to the students undergoing Advanced Information Technology under AICITSS.

All attempts have been made to make the discussion simple and comprehensive. Students may note that the material has been prepared with an objective to help them in acquiring requisite knowledge and skills in the subject and gain hands on experience.

This is also expected to serve as a source of reference book in their future education and training. In case students have any suggestions to make for further improvement of the material contained herein, they may write to Board of Studies, ICAI Bhawan, A-29, Sector–62, Noida. Queries can also be sent to: helpdeskitt@icai.in

All care has been taken to provide the material in a manner useful to the students. However the material has not been specifically discussed by the Council of the Institute or any of its Committees and the views expressed herein may not be taken to necessarily represent the views of the Council or any of its Committees.

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The Institute of Chartered Accountants of India
Board of Studies

USER GUIDE & DISCLAIMER STATEMENT for e-Learning/ Computer Based Training (CBT) Modules on (i)Financial Analysis using MS-Excel 2010 (ii)Using MS-Excel as an Audit Tool

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1.
Introduction to Practice Manual

A. Introduction

Information Technology (IT) is revolutionising the way businesses work, survive and grow in the competitive global village today. Governments, Businesses Enterprises and Individuals are fast changing the way they operate, perform business operations and deliver goods and services. Online is the new mantra of today's information sharing, governance, and delivery of goods & services.

Amazon started its operations by selling Books. Today, it sells most goods and services that we require, even in India. The old book shops have disappeared or are fast disappearing. Kodak, the pioneer in photography is no more. Nokia, the largest seller of mobile phones at one time, has been acquired. If we do not keep pace with the high pace of technological development and resultant obsolescence, we are neither competitive nor effective and hence lose relevance.

Professional Accounts have also started making greater use of IT for their activities including communications (e-Mail, WhatsApp, SMS), Financial Analysis/ Reporting, Accounting, Taxation, Online Returns Filing etc. The survival and growth of a dynamic profession of Chartered Accountancy depends, to a large extent, on the understanding of Business Information Systems, Business Process Automation, Telecommunications and Networking to face the emerging challenges in the globalized competitive business environment. Accountants today need to use and analyse humongous data, generate relevant information and report findings.

B. AICITSS - Advanced IT

The Advanced IT Course aims to indoctrinate financial analysis and reporting capabilities using modern day tools and techniques including Auditing in an ERP Environment, MS-Excel, MS-Access, MS - Excel as an Audit Tools, and ERP.

C. Practice Manual - Organisation

This Practice Manual provides practical Illustrations, Exercises, and Case Studies to be covered as a part of the Advanced IT Course on an All India basis by Students. The IT Centres shall ensure that these practical applications are duly covered as a part of the course delivery.

While this Practice Manual enumerates the practical Illustrations, Examples, Case Studies to be covered as a part of the course, further detailed steps are available in the Study Material for the Course, Video Lectures in the Course CD and the following three e-Learning modules available in the Course CD:

1. Financial Analysis using MS-Excel
2. Using MS-Excel as an Audit Tool

The Practice Manual provides brief steps to complete the practical Hands-On Training (HOT), the Students are advised to refer to the detailed steps in the aforementioned resources.

This Practical Manual provides the practical illustrations, Examples and Case Studies and then the steps with solution, such that students can first make an earnest effort to solve the problem at their level and then view steps and solution thereof.

Note: The detailed steps and process of solving the Illustrations and Case Studies in this section have been covered in the following resources:

Name	Symbol	Resource
Study Module I	**SM1**	Study Material for AICITSS - Advanced IT Module I
Study Module II	**SM2**	Study Material for AICITSS - Advanced IT Module II
E-Learning CD1	**ELM1**	E-Learning Module on "**Financial Analysis using MS-Excel"**
E-Learning CD3	**ELM3**	E-Learning Module on "**Using MS-Excel as an Audit Tool**"
E-Learning CD4	**ELCD1**	E-Learning CD & Practice Module
New	**New**	Newly added Exercise & Case Studies

Note:

The E Learning CD1, CD2, CD3 have been incorporated as a part of the Advanced IT Course DVD. The e-Learning modules require Adobe Flash Player to work, which is generally available in most computers today and can be downloaded from https://get.adobe.com/flashplayer/ website.

D. Overview

As a part of our Advanced IT Course study, we shall be covering the Exercises and Case Studies as detailed in the following table, in the respective topics.

Sr.	Unit Name	Exercise	Case Studies
1	Advanced MS – Excel	22	4
2	MS – Excel as Audit Tool	43	13
3	Advanced MS Access	28	
4	ERP	21	1
	Total	**114**	**18**

2.
Advanced MS – Excel

A. Introduction

The advent of Personal Computers in eighties saw the introduction of three very useful Office Productivity Software including Lotus 1-2-3, dBase and Word Star that really changed the way computers were used. Lotus 1-2-3, Electronic Spreadsheet Software soon emerged to be the most useful software for Accountants. Soon thereafter, Microsoft released its integrated Office Productivity Software named MS-Office with a unified interface, which included MS-Excel; the most commonly used Electronic Spreadsheet Software (ESS) today. The ESS enables us to import or feed required data and undertake analysis as per requirements.

The Workbook of Electronic Spreadsheet consists of Worksheets. Each Worksheet consists of Columns and Rows. The intersection of a column and row is called a Cell, in which we can enter text, numbers or formulas, as per our requirements. We can analyse the data in Cells and Worksheets, to generate our required reports – For example Trial Balance and Final Accounts.

As a part of our study on advanced usage of MS-Excel, we shall be covering the Illustrations and Case Studies as detailed in the following table, in the respective chapters

Sr. No.	Chapter Title	Exercise	Case Studies
Unit 1	**Advanced MS – Excel**		
1	Working with XML	3	1
2	Advances in Macros	3	0
3	Applied Financial Analysis and Forecasting	2	6
4	Mathematical & Statistical Tools for Financial Analysis	4	3
5	Application of MS Excel	10	14
	Total	**22**	**24**

We shall study the use of MS-Excel spreadsheet software for importing/ exporting/ consolidating of data from/ to multiple formats as required and perform data analysis for assurance, collecting and evaluating evidence, performing what if analysis, scenario analysis, statistical analysis, sampling and reporting/ exporting to various formats such as XML etc. and presenting in form of pivot tables, charts as relevant for business/ control issues of accounting, costing, budgeting, tax computations, etc.

B. Chapter 1 : Working with XML

Exercise 1.1: Working with XML Data File SM1

We have a salesman wise Invoice list in excel having the header as which has Sales Id, Salesman, Invoice, Customer and Amount. You are required to convert this data into XML so that the data can be shared with other applications.

Example 1: We have an XML file Salesman Invoice.xml from which we want to create a Table in MS-Excel..

For Result please refer to Page No 285 of Study Module – I.

Example 2: We have an XML file Salesman Invoice.xml from which we want to create Map.

For Result please refer to Page No 286 of Study Module – I.

Example 3: We want to populate this worksheet from the contents of file Salesman Invoice.xml.

For Result please refer to Page No 289 of Study Module – I.

Note – For above use Exercise1.1.xlsx file from EXCEL folder.

C. Chapter 2 : Advanced Macros

Exercise 2.1: Macro to Change Text into Lowercase, Uppercase and Propercase. **ELCD1**

Create a Macro that shall change the data available in the following screenshot into Lower, Upper and Proper case:

	A	B	C	D
1	Create a Macro that shall change selected data's			
2	case to Lower, Upper and Proper case.			
3		**Output**		
4	Lower Case	?		
5	Uppar Case	?		
6	Proper Case	?		

Note – For above use Exercise2.1.xlsx file from EXCEL folder.

Exercise 2.2: Macro to Change Sheet names and Hyperlinked Index **ELCD1**

Create a Macro that shall

List down all sheet names in the current workbook

Create hyperlinked index to sheet names.

	A	B	C	D	E	F
1	**Create a Macro that shall**					
2		**List down all sheet names in the current workbook**				
3		**Create hyperlinked index to sheet names**				

Exercise3.2 | Mayur | Anoj

Note – For above use Exercise2.2.xlsx file from EXCEL folder.

Exercise 2.3: Macro to Delete Remaining Sheets **ELCD1**

Create macro that will delete all sheets, of the workbook, except current sheet.

	A	B	C	D	E	F	G	H
1	Create macro that will delete all sheets of the							
2	workbook, **except current sheet.**							
3								

Exercise3.3 | Sheet2 | Sheet3 | Sheet4 | Sheet5 | Sheet6 | Sheet7

Note – For above use Exercise2.3.xlsx file from EXCEL folder.

D. Chapter 3: Applied Financial Analysis And Forecasting Financial Statements

Revision Case Studies-

Exercise 3.1 Financial Ratios **SM1**

Based on the Balance Sheet and Profit and Loss Statement available in the Exercise4.1 sample file, you are required to compute the following ratios:

Liquidity Ratios	Leverage Ratios	Turnover / Activity Ratios	Profitability Ratios
1 Current Ratio	3 Debt - Equity Ratio	8 Inventory Turnover ratio	13 Gross Profit Margin Ratio
2 Quick Ratio	4 Debt - Total Fund Ratio	9 Times the inventory turned over	14 Net Profit Margin Ratio
	5 Debt - Asset Ratio	10 Inventory measured in days of sale	15 Return on Investment
	6 Interest Coverage Ratio	11 Average Collection Period	
	7 Liability Coverage Ratio (LCR)	12 Fixed Assets Turnover ratio	

Note – For above use Exercise3.1.xlsx file from EXCEL folder.

For Result please refer to Page No 331 of Study Module – I.

Exercise 3.2 Du Pont Analysis (Return on Equity) **SM1**

The work file for this exercise contains Revenue, EBT, EBIT, Interest, Income Tax, Total Assets and Shareholders Equity data for a company. You are required to compute Return on Equity through Du Point Analysis.

Note – For above use Exercise3.2.xlsx file from EXCEL folder.

For Result please refer to Page No 341 of Study Module – I.

Exercise 3.3 Leasing **SM1**

Example 1: A Company is considering a proposal to whether procure or lease a Computer Server whose Cost is Rs.1,75,000/-, Annual Lease Amount payable is Rs.45,000/- and the annual Interest Rate is 8%. You are required to financially evaluate whether to procure or lease the computer server.

Note – For above use Exercise3.3_Ex1.xlsx file from EXCEL folder.

For Result please refer to Page No 342 of Study Module – I.

Example 2: A company is considering acquiring additional machinery. It has 2 options:-

Option 1: To purchase machinery for Rs.22,00,000/-
Option 2: To lease the machinery for 3 years for Rs.7,25,000/- as annual lease. The agreement also requires an additional payment Rs 6,00,000 at the end of 3rd year

Annual Operating Costs (excluding depreciation/ lease rent of machinery) are estimated at Rs.900000/- with an additional cost Rs.1,00,000/- for training cost at the beginning of the year. These costs are to be borne by lessee. The Company will borrow at 16% interest to finance the acquisition. The Machinery under review will be worth Rs.10/- lacs at the end of 3 years. Repayments are to be made as follows:

Year End	Principal	Interest
1	500000	352000
2	850000	272000
3	850000	136000

The Company uses SLM to depreciate the assets & pays tax @ 50%. Which Alternative is better??
Note – For above use Exercise3.3_Ex2.xlsx file from EXCEL folder.

For Result please refer to Page No 344 of Study Module – I.

Exercise 3.4 Financial Shenanigans **SM1**

The Sales Revenue of M/s. Enron for the years 1996, 1997, 1998, 1999 and 2000 were $13280/-, $20,273/-, $31,260/-, $40,112 and $100,789 respectively in million dollars. The Gross Profit for these years was $2,811, $2,962/-, $4,879/-, $5,351 and $6,272/- respectively. The Net Profit for these years was $584/-, $105, $703, $893 and $979 respectively. The Fortune 500 Ranking of M/s. Enron was 94, 57, 27, 18 and 7 respectively in these years. You are required to compute GP Ratio, NP Ratio and Plot these results in a suitable chart to present a graphical view of M/s. Enron.

Note – For above use Exercise3.4.xlsx file from EXCEL folder.

For Result please refer to Page No 346 of Study Module – I.

Exercise 3.5 Dividend Growth Model **SM1**

M/s. Big D Inc. has just paid a dividend of Rs. 30/-. The Company expects to increase its dividend pay-out rate by 2% per year. If the market requires a return of 15% on assets of this risk, you are required to compute how much should the stock be selling for if the Dividend Growth Model states that P0=D0*(1+G)/R-G)=D1/(R-G)?

M/s. Big D Inc. is expecting to pay dividend of Rs.120/- in one year. If the dividend is expected to grow at 5% per year and the required return is 20%, you are required to compute the price?

As a part of this Case Study, you are also required to find the stock price sensitivity towards growth rate if expected dividend is Rs.2 and the Required Rate is 20%.

You are also required to find the stock price sensitivity towards expected returns if Expected Dividend is Rs.2 and the Growth Rate is 5%.

Note – For above use Exercise3.5.xlsx file from EXCEL folder.

For Result please refer to Page No 356 of Study Module – I.

E. Chapter 4 : Mathematical & Statistical Tools For Financial Analysis

Exercise 4.1: Excel Basic Statistical Functions SM1

Example 1: Find Mean for test scores of 40 students.

Test Scores of 40 Students are available in Exc 4.1.xlsx file from excel folder. Students are required to compute the Arithmetic Mean for these test scores using @mean MS-Excel function.

Example 2: Find Median for test scores of 20 individuals.

Test Scores of 20 Students are available in Exc 4.1.xlsx file from excel folder. Students are required to compute the Median Scores for these test scores using @median MS-Excel function.

Example 3: Find Mode for test scores of 20 students

Test Scores of 20 Students are available in Exc 4.1.xlsx file from excel folder. Students are required to compute the Mode Scores for these test scores using @mode MS-Excel function.

Note – For above use Exercise4.1.xlsx file from EXCEL folder.

For Result please refer to Page No 365 of Study Module – I.

Exercise 4.2: Testing of hypothesis SM1

Decisions and errors in Hypothesis testing		
Decision	**True state of the world**	
	H_0 is true	**H_1 is true**
Reject H_0	Type I error	Correct decision
Do not Reject H_0	Correct decision	Type II error

A statement from an official report says that CAs in industry earn 60,000 per month. We feel that CAs in industry have a mean annual salary of more than 60,000 per month. At alpha = .05, sigma = 12,549, n = 36 and sample mean = 63,500, can we conclude that CAs earn more than 60,000?

Note – For above use Exercise4.2.xlsx file from EXCEL folder.

For Result please refer to Page No 366 of Study Module – I.

Exercise 4.3: Confidence Interval SM1

Given the following set of 32 random test scores taken from a much larger population, calculate with 95% certainty an interval in which the population mean test score must fall. In other words, calculate the 95% Confidence Interval for the population test score mean.

Note – For above use Exercise4.3.xlsx file from EXCEL folder.

For Result please refer to Page No 369 of Study Module – I.

Exercise 4.4: One way ANOVA SM1

We have units of products sold by three different groups of salesman throughout ten days. Find out the effect of difference in selling techniques on the sales.

Note – For above use Exercise4.4.xlsx file from EXCEL folder.

For Result please refer to Page No 371 of Study Module – I.

Exercise 4.5: Regression SM1

Based on the monthly rates of return of 4 stocks: (Google, Yahoo, MS, and Apple) and the Tech Index, create a Regression Equation that will predict the Tech Index return for a given month if a different set of rates of return for each company's stock are input.

Note – For above use Exercise5.5.xlsx file from EXCEL folder.

For Result please refer to Page No 373 of Study Module – I.

Exercise 4.6: Trend Analysis New

Consider the given data of M/s. XYZ & Co. relating to sales from April 2014 to November 2014. Identify the project sales from December 2014 to March 2015 by using trend analysis. (Estimating the future trend of values based on the figures of previous period.)

Note – For above use Exercise4.6.xlsx file from EXCEL folder.

Exercise 4.7: Correlation (Two Variables) New

Consider the given data relating to time spent by the students and the marks achieved. With the use of correlation find the relationship between the time spent and marks obtained.

Note – For above use Exercise4.7.xlsx file from EXCEL folder.

Exercise 4.8: Relative Size Factor (RSF) New

If we have following bank payment vouchers of Vendor XYZ, calculate the RSF.

Voucher Number	Amount
AB012	50,000
AB032	5,00,000
AB121	5,00,000
AB171	20,000
AB0378	23,000
AB198	8,500

The largest value in above table = Rs 5, 00,000/- and the second largest value = Rs 50,000/-. Therefore the RSF in this case = 10 that is Rs 5, 00,000 Lacs divided by Rs. 50,000. As per RSF theory generally any transactions where RSF > 10 are the cases of isolated outliers.

RSF is the ratio of Largest Number to the Second Largest Number of a relevant set.

RSF = (Maximum Value / 2nd Maximum Value)

Relevance of RSF

Scrutiny of individual parties account is humanly ineffective and now with most of the data available digitally how does one scrutinize the ledgers? RSF theory comes in very handy here, instantly one can calculate RSF and take sample for verification. This tool finds focus and meaning to the scrutiny. It highlights all unusual fluctuations which may be stemming from frauds or errors.

Application of RSF Theory in Audit

Any set of transactions generally take place in certain range or limits. Thus, there is a certain pattern of financial limits peculiar to each vendor, customer, employee, etc. these limits may not be defined, but the data can be analysed to view a pattern. RSF captures this pattern as ratio.

Note – For above use Exercise4.8.xlsx file from EXCEL folder.

F. Chapter 5 : Application of MS Excel

Revision Case Studies-

Exercise 5.1: Marginal Costing

Example 1: Break Even Point (BEP) Calculation **SM1**

Prepare a chart showing BEP when Selling Price is of Rs.600, Variable Cost is Rs.250 and Fixed Cost is Rs.4200.

Example 2: Pricing Decisions & Discounts

SRT Enterprises is into business of selling cricket bats. They have to decide the price at which to sell the product. Before the price is decided, marketing department is being consulted about the sales in quantity that can be achieved in the first year. SRT Enterprises wishes to achieve BEP in the first year itself. Consider following data.

Variable Cost = Rs.250, Fixed Cost = 10 Lacs. Sales Price Range = Rs.300 to Rs.1,000

Prepare a statement to assist M/s. SRT Enterprises to take a decision based on above details.

Hint:- BEP: Break Even Point is the point of no profit or no loss. It may be expressed in terms of sales value or sales unit. It can be calculated as under.

$$\text{BEP (Value)} = \frac{\text{Fixed Cost}}{\text{PV Ratio}} \qquad \text{BEP (Units)} = \frac{\text{Fixed Cost}}{\text{Contribution per Unit}}$$

Note – For above use Exercise5.1.xlsx file from EXCEL folder.

For Result please refer to Page No 389 of Study Module – I.

Exercise 5.2 Capital Budgeting Case Study **SM1**

A Company is proposing to install a Machine costing Rs.1,000/- that would generate Cash Flows of Rs.200/-, Rs.300/-, Rs.400/-, Rs.500/- and Rs.600/- at the End of Year 1, 2, 3, 4 and 5 respectively. The Cost of Capital for the Company is 11%. Compute NPV of the Project using the normal manual method and NPV and IRR using MS-Excel readymade functions.

Note – For above use Exercise5.2.xlsx file from EXCEL folder.

For Result please refer to Page No 410 of Study Module – I.

Exercise 5.3 Tax Calculations

Example 1: By using If function **SM1**

Compute Tax payable for AY 14-15 for Mr. X whose Status is Individual (Age below 60 Years) with an Income of Rs.11,62,500/-. Indicative steps to solve this problem are as follows:

1. **For 10% slab** – Check if the income is greater than Rs.5.00 lacs, if yes, the tax shall be Rs.30,000. If no, then check if the income is greater than Rs.2 lacs, if yes then tax shall be 10% of excess of income over Rs.2 lacs. If income is even less than Rs.2 lacs, the tax shall be zero.
2. **For 20% slab** – Check if income is greater than Rs.10 lacs, if yes, then the tax shall be Rs.1 lacs. If no, then check whether income is greater than Rs.5 lacs, if yes, then tax shall be 20% of excess of income above Rs.5 lacs. If income is not greater than Rs. 5 lacs, then tax shall be zero.
3. **For 30% slab** – Check if income is greater than Rs.10 lacs, if No, tax shall be zero. If yes, tax shall be 30% of income above Rs.10 lacs.

Note – For above use Exercise5.3.xlsx file from EXCEL folder.

For Result please refer to Page No 399 of Study Module – I.

Exercise 5.4 EMI Calculations **SM1**

Example 1: PMT Function – (Payment - Used for calculating monthly instalment /investment amount.)

Mr. A want to avail a loan of Rs.1 lacs. Repayment period is 3 years & rate of interest is 12% p.a. Compute Equated Monthly Instalment (EMI) using the PMT function of MS-Excel.

Note – For above use sheet Exercise5.4 Ex1 sheet from Exercise5.4.xlsx file from EXCEL folder.

For Result please refer to Page No 400 of Study Module – I.

Example 2: PPMT Function- (Principal Payment – Used for calculating principal amount in EMI)

In the previous example, we have computed the EMI for a loan of Rs.1 lacs with repayment period is 3 years & rate of interest is 12% p.a. You are required to compute the Principal and Interest paid in each of the EMI's using the PPMT and IPMT functions of MS-Excel.

Note – For above use sheet Exercise5.4 Ex2 sheet from Exercise5.4.xlsx file from EXCEL folder.

For Result please refer to Page No 402 of Study Module – I.

Example 3: Loan Amortization Sheet (Excel provides a readymade solution for the EMI calculation.)

MS-Excel has many Built-In and other templates to facilitate our work. One such template is on Loan Amortisation Template. Start MS-Excel and select File→New→Sample Templates Command. You would see the Loan Amortisation Template. Click on this template and Select Create Option. Thereafter, feed requisite details of required loan that include Loan Amount, Interest Rate, Loan Period, Number of Payments Per Annum and Loan Start Date. MS-Excel generates the Loan Amortisation Statement.

For Result please refer to Page No 403 of Study Module – I.

Exercise 5.5: Calculate Probability **SM1**

The Sales Department of a company has estimated probability of achieving sales of 50, 60, 70, 80, 90 & 100 units as follows:

	A	B
1	Probability	
2	Sales Units	Probability
3	50	0.05
4	60	0.1
5	70	0.4
6	80	0.3
7	90	0.1
8	100	0.05
9	Total	1.00

You are required to calculate probability of achieving sales target between 70 to 80 units using PROB function of MS-Excel.

Note – For above use Exercise5.5.xlsx file from EXCEL folder.

For Result please refer to Page No 415 of Study Module – I.

Exercise 5.6: Sensitivity Analysis **SM1**

Sensitivity Analysis in MS-Excel assists in determining how different values of an independent variable will impact a particular dependent variable under a given set of assumptions. It is a way to predict the outcome of a decision if a situation turns out to be different compared to key predictions.

Compute Sensitivity Analysis on EMI if interest rate varies from 7.5% to 9% and the loan amount changes from Rs.15 Lacs to Rs.50 Lacs.

Note – For above use Exercise5.6.xlsx file from EXCEL folder.

For Result please refer to Page No 416 of Study Module – I.

Exercise 5.7: Scenario Analysis **SM1**

A furniture shop has 100 chairs which are sold to customer at Rs.4,000/- to Rs.6,000/-. Currently, the shop is

selling 60% of chairs at highest price of Rs.6,000 each and 40% chairs at lowest price of Rs.4,000 each, giving a Sales Revenue of Rs.5,20,000/-.

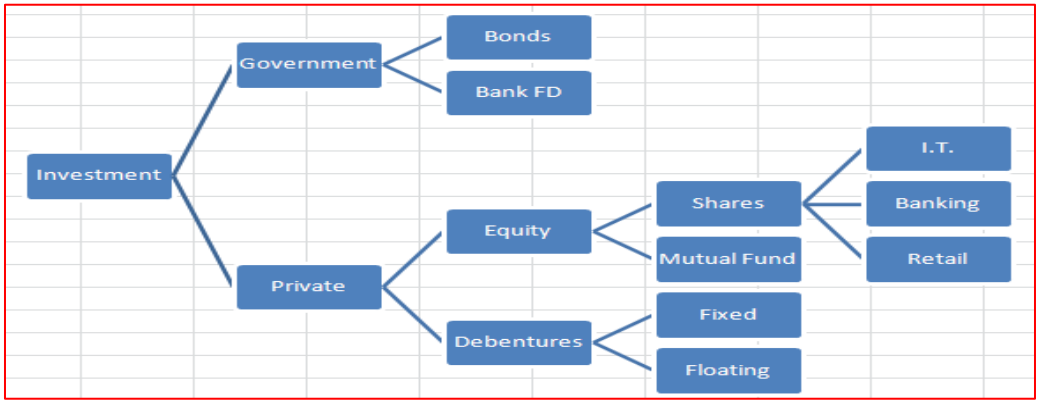
Using MS-Excel Scenario Analysis facility, compute the Sales Revenue if 70%, 80% and 90% chairs are sold at highest price of Rs.6,000/-

Note – For above use Exercise5.7.xlsx file from EXCEL folder.

For Result please refer to Page No 418 of Study Module – I.

Exercise 5.8: Decision Tree Analysis **SM1**

Create a Decision Tree as shown below in Excel.



For Result please refer to Page No 421 of Study Module – I.

Exercise 5.9: Personal Financial Planning **SM1**

Example 1: FV Function

Mr. Swapnil is willing to invest Rs.5,000/- per month for the purpose of buying office space. He wants to know how much amount he would get at the end of 10 years considering a rate of interest of 8% p.a.

For Result please refer to Page No 425 of Study Module – I.

Example 2: PMT Function with Future Value

Mr. Ashish is planning to collect an amount of Rs.10 Lacs in five years for the purpose of education of his daughter. He wants to know how much he needs to invest every month considering a rate of interest of 8% p.a.

Hint: Use PMT Function of MS-Excel to compute the amount that he needs to invest every month.

For Result please refer to Page No 426 of Study Module – I.

Example 3: Rate Function with Future Value

Mr. Amit wants to collect Rs.5 lacs at the end of five years by investing Rs.5,000 per month. He wants to know the rate of interest at which he should invest.

For Result please refer to Page No 426 of Study Module – I.

Example 4: NPER Function

Ms. Ms. Mayura wants to collect Rs.5/- Lacs to purchase a plot of land for which she can invest Rs.10,000/- per annum. Compute the number months she would have to keep investing this money considering that the rate of interest is 10%.

Note – For all above examples use Exercise5.9.xlsx file from EXCEL folder.

For Result please refer to Page No 427 of Study Module – I.

New Case Studies-

Exercise 5.10: Depreciation Accounting Case Study **ELM1**

Compute Depreciation to be charged for a Plant and Machinery with following details under the five methods (a) Straight Line Method (SLN), (b) Sum of Years Digit Method (SYD), (c) Declining Balance Method (DB/ WDV), (d) Double Declining Balance Method (DDB) and (e) VDB).

M/s. Being Computerized Co. Ltd.			
Cost	**Scrap Value**	**Life-Yrs**	**WDV Rate**
110,000	10,000	10	20%

Note – For above use Exercise5.10_Depreciation_CS.xlsx file from NEWCS_EXCEL folder.

Exercise 5.11 Cash Budgeting Case Study **ELM1**

Prepare a Cash Budget for M/s. Being Computerised Co. considering following particulars:

1. Sales Revenue & Sales Growth Rates: Sales revenue were Rs. 80,000/-, Rs. 90,000/- and Rs. 1,00,000/- in April, May & June and is expected to increase @ 10%, 20% & 30% in the months of July, August, September, October, November, December and January respectively.
2. Cash & Credit Sales: Sales are generally made 40% on Credit & 60% on cash basis. The Credit Sales are generally realised 50% in next month, 30% in second month & balance 20% in third month.
3. Closing Cash Balance:- The closing Cash Balance for the month of June was Rs. 1,00,000/-
4. Direct Material Cost: - The Direct Material Cost is 40% of Sales. The Direct Material is procured 2 month in advance for requisite manufacturing with a credit period of one month.
5. Wages and Salaries are estimated at 20% of sales revenue; the payment of which is made the following month on monthly basis.
6. Rent for the Factory is 6, 00,000/- per annum, payable as quarterly advance.
7. Factory Overheads are Rs. 10,000/- per month.
8. Minimum Cash Balance: The Company wishes to maintain a minimum Cash Balance of Rs. 20,000/- for office exigencies. In case sufficient balance is not available, a Short Term Loan of 1 month is taken @16% per annum for 1 month.

Note: For above use Exercise5.11_Cash Budgeting_CS.xlsx file from NEWCS_EXCEL folder

Exercise 5.12 Tax Calculations **ELM1**

Example 1: Compute Tax Payable by Mr. Shri Ram using VLOOKUP for the AY 2012-13 using Tax Rates given in the following table:

M/s. Being Computerized Co.	
Tax Computation Sheet	
Assessment Year 2012-13	

Name	Shri Ram
GTI	1,000,000
Tax	
Education Cess	
SHE Cess	
Total Tax	

For	**Male Less < 60 Yrs**	
GTI	**Rate**	**Amt+**
1	0%	0
180,000	10%	0
500,000	20%	
800,000	30%	

Slab	
Tax Rate	
Amt+	

Note – For above use Exercise5.12_Income Tax_CS.xlsx file from NEWCS_EXCEL folder.

Exercise 5.12a Tax Calculations

Compute Tax Payable by Mr. Shri Ram in the earlier Exercise for the AY 2016-17 using Tax Rates by also considering Surcharge, Education Cess, SHE Cess. Students are also required to compute:

1. Tax payable for tax payer's age of 80+ and between 60 and 80.

2. Calculation of interest u/s. 234C of Income-tax Act in different situations
3. Calculation of fine u/s. 234E of Income-tax Act for TDS defaults
4. Calculation of capital gains for different asset classes with different holding periods
5. Swachch Bharat Cess.

Note – For above use Exercise5.12a_Income Tax_CS.xlsx file from NEWCS_EXCEL folder.

Exercise 5.13 EMI Calculations **ELM1**

Compute EMI for a Loan amount of Rs.10,000/- with Interest @ 10% per annum for three years at fixed rate of interest and interest on reducing balance method.

Note – For above use Exercise5.13_EMI_CS.xlsx file from NEWCS_EXCEL folder.

Exercise 5.14: Marginal Costing Case Study **New**

M/s. ABC & Co. currently sells 1000 units of Product X @ Rs.100 with Variable Costs of Direct Material, Direct Labour and Direct Expenses of Rs.5, 10 and 20 respectively and Fixed Costs of Rs.50,000/-. Prepare a well presented Marginal Cost Statement with Profit/ Loss, Break Even Point and Break Even Sales.

Project Assignment: Use this statement to financially evaluate proposal from the (a) Sales Department to decrease Selling Price by 10% which is expected to increase Sales by 30% and (b) Production Department proposal to procure a Plant & Machinery that would increase Fixed Costs by Rs.10,000/- and assist in reducing Direct Labour and Direct Expenses by 50%.

Note – For above use Exercise5.14_Marginal Costing_CS.xlsx file from NEWCS_EXCEL folder.

Exercise 5.15: Capital Budgeting Case Study **ELM1**

M/s. ABC & Co. wishes to procure a Capital Asset for Rs.1,00,000/- that is expected to generate cash flows of Rs.20,000/- for ten years and the Cost of Capital is 10%. Prepare the Capital Budget giving NPV using PV Factor and also validate result using @NPV function. Also compute the Internal Rate of Return (IRR) for the project.

Note – For above use Exercise5.15_Capital Budgeting_CS.xlsx file from NEWCS_EXCEL folder.

Exercise 5.16: Monte Carlo Simulation Case Study **New**

Simulation is a numerical technique to develop a model with mathematical and logical relationships necessary to describe the behaviour and structure of a complex real world system, to predict the behaviour of a process over multiple experiments. Monte Carlo Simulation is an important simulation technique using random numbers and probability distribution/ curves. The probability distribution/ curve could be Uniform Distribution, Normal (Gaussian) Distribution (Standard Bell Shaped Curve), Lognormal Distribution, or Poisson Distribution.

M/s. ABC Co. has computed Mean Forecast for Sales Revenue and Variable Costs of Rs.10 lacks and 6 lacks respectively and has Fixed Costs of Rs. 2 Lacks. These values have been tabulated in MonteCarloCaseStudy.xlsx file in the Sample Files. Students are required to undertake (a) Monte Carlo Simulation using Random Numbers and Normal Distribution; (b) tabulate results for 20 iterations and (c) Compute the Average Sales Revenue for these 20 iterations.

Note – For above use Exercise5.16_MonteCarlo_CS.xlsx file from NEWCS_EXCEL folder.

Exercise 5.17: Sensitivity Analysis Case Study with MS-Excel What-If-Analysis **New**

M/s. ABC Ltd. is considering a project with an Initial Cost of Rs.10,00,000/- with Selling Price per Unit of Rs.60 and Cost per unit of Rs.40. The expected Sales Volume in Year 1, 2 and 3 are 20,000, 30,000 and 30,000 units respectively. The Cost of Capital for the company is 10%. You are required to:

1. Compute NPV and IRR of the Project and
2. Undertake What-If-Analysis as follows:
   a) Pivot Table Report of Scenarios of NPV for Cost of Capital of 10%, 15%, 20%, 25% and 30%
   b) Compute IRR of the Project through Goal Seek

c) Generate a Data Table Report of NPV of the Project using Cost of Capital as 10%, 15%, 20%, 25% and 30%

Note – For above use Exercise5.17_Sensitivity Analysis_CS.xlsx file from NEWCS_EXCEL folder.

Exercise 5.17a: Scenario Analysis Case Study with MS-Excel What-If-Analysis **New**

M/s. ABC Co. Ltd. Currently sells 1000 units of a product @ Rs.10/- each that costs Rs.6/- each. The Company projections estimate following growth rates per annum for Sales @ 15%, Costs @ 10% and Selling Price @ 2%. You are first required to compute the NPV of the project and then undertake Sensitivity Analysis using "Scenario Manager" in "What-If-Analysis" of MS-Excel for following Scenarios:

Particulars	Best	Worst	Average
Tax Rate	50%	30%	70%
Sales Growth	15%	20%	15%
Cost Growth Rate	10%	2%	10%
Selling Price Growth Rate	2%	8%	2%

Note – For above use Exercise5.17a_Scenario Analysis_CS.xlsx file from NEWCS_EXCEL folder.

Exercise 5.18: Consolidation & Summarization Case Study **New**

The Institute gets a report from its Five Regional Offices on the number of Students trained for its five Soft Skill Courses namely IT Course, Orientation Programme, GMCS-I, GMCS-II and Advanced IT Courses in MS-Excel file with region name; which are updated on monthly basis, on receipt at Head Office. The Head Office needs to file a Report of Students trained. Students are required to prepare a Consolidated Report that takes current data from all regions. Please note that these are indicative, not actual reports.

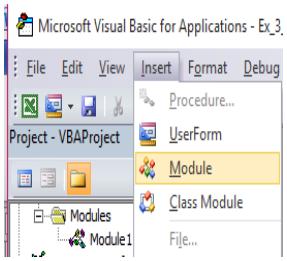
Note – For above use Exercise5.18_Consolidation_CS.xlsx, Exercise5.18_Central.xlsx, Exercise5.18_East.xlsx, Exercise5.18_North.xlsx, Exercise5.18_South.xlsx and Exercise5.18_West.xlsx file from NEWCS_EXCEL folder.

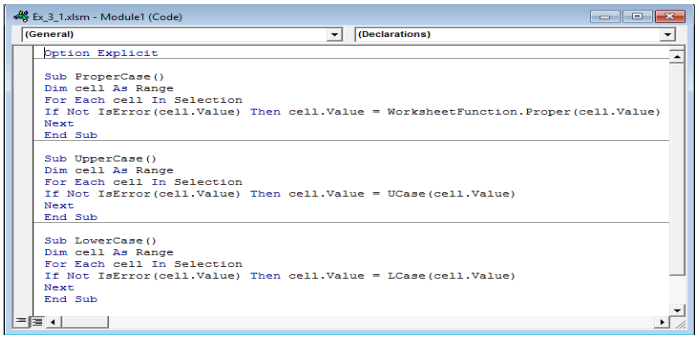
A. Chapter 2 : Advances in Macros

Exercise 2.1

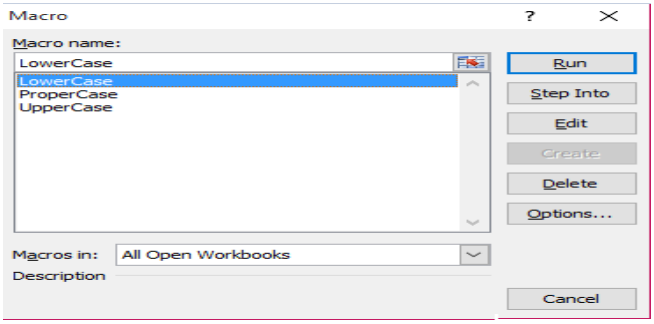
Output

Step-1: Open Exercise2.1.xlsx file from EXCEL folder and press ALT + F11.
Step-2: Insert new Module and type the below code as shown in below figure.





Step-3: Press ALT + F8 and run the macro.

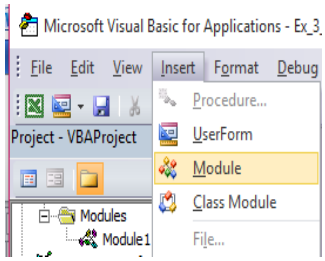


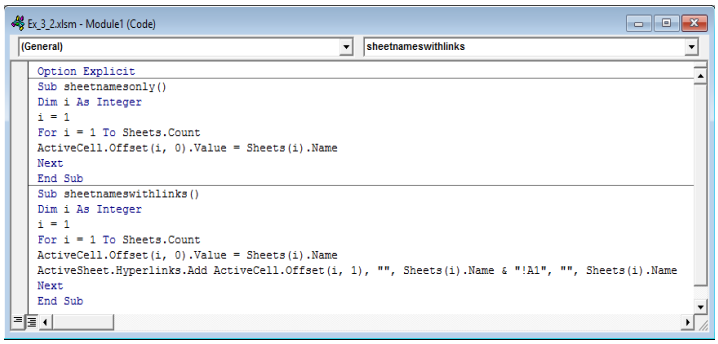
	A	B
1		Output
2	Lower Case	this is lower case
3	Upper Case	THIS IS LOWER CASE
4	Proper Case	This Is Lower Case

Exercise 2.2

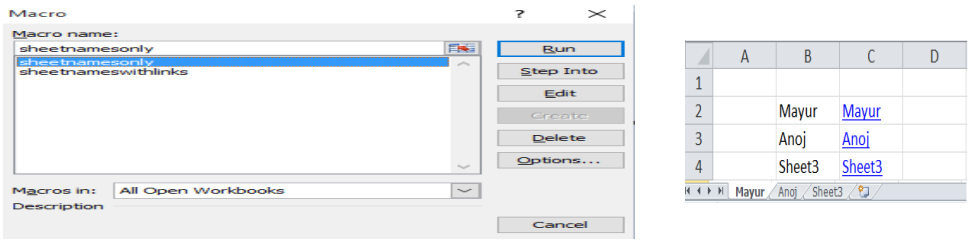
Output

Step-1: Open Exercise2.2.xlsx file from EXCEL folder and press ALT + F11.
Step-2: Insert new Module and type the below code as shown in below figure.





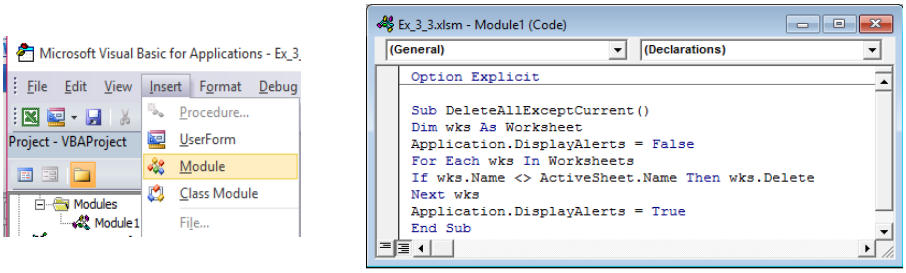
Step-3: Press ALT + F8 and run the macro.



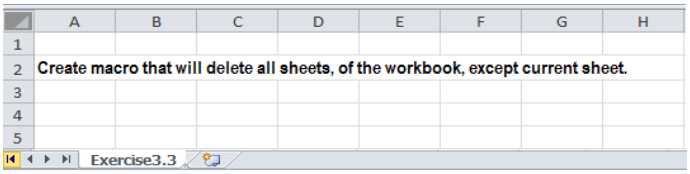
Exercise 2.3

Output

Step-1: Open Exercise2.3.xlsx file from EXCEL folder and press ALT + F11.
Step-2: Insert new Module and type the below code as shown in below figure.



Step-3: Open Exercise3.3.xlsx file from EXCEL folder and press ALT + F11.



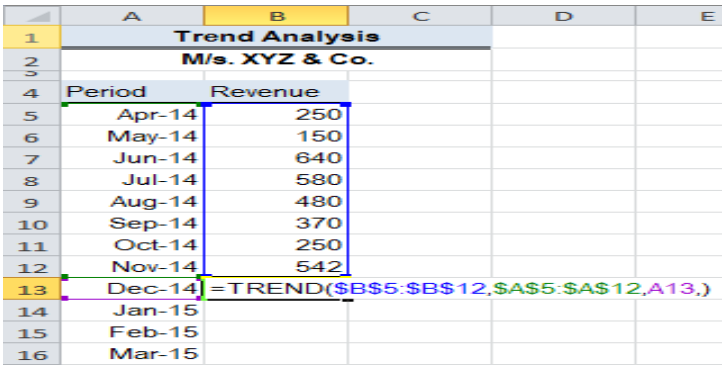
B. Chapter 4 : Mathematical & Statistical Tools For Financial Analysis

Exercise 4.6: Trend Analysis

Output

Here use the formula =TREND (known_y's, [known_x's], [new_x's], [const])

Step 1: Estimating the sales for future periods based on the trend from Apr. 14 to Nov. 14, please enter Trend formula as =TREND (B5:B12, A5:A12, A13,) in Cell B13. Please note that fixed reference of cells is not used so that trend is computed dynamically so as to include sales of the immediate month while computing trend.



Step-2: Using the drag option pull the formula to the end of table i.e. till Mar-15.

	A	B
1		Trend Analysis
2		M/s. XYZ & Co.
4	Period	Revenue
5	Apr-14	250
6	May-14	150
7	Jun-14	640
8	Jul-14	580
9	Aug-14	480
10	Sep-14	370
11	Oct-14	250
12	Nov-14	542
13	Dec-14	495
14	Jan-15	515
15	Feb-15	534
16	Mar-15	552

Exercise 4.7: Correlation (Two Variables)

Output

The correlation coefficient shows how strongly two dependent variables are related to each other on a scale of (-1) to +1, A correlation coefficient of +1 indicates a perfect positive correlation and -1 indicates a perfect negative correlation. However, in normal situations, the correlation may vary between -1 and +1 based on the data.

Step 1: At Cell C12 use the CORREL formula, select array1 as B4:B10 and array2 as C4:C10 and press enter.

	A	B	C	D
1		Correlation		
2				
3	Student	Time Alloted	Marks	
4	A	12	70	
5	B	18	82	
6	C	16	87	
7	D	14	71	
8	E	8	56	
9	F	7	60	
10	G	10	52	
11				
12	Correlation Co-efficient	=CORREL(B4:B10,C4:C10)		

	A	B	C
1		Correlation	
2			
3	Student	Time Alloted	Marks
4	A	12	70
5	B	18	82
6	C	16	87
7	D	14	71
8	E	8	56
9	F	7	60
10	G	10	52
11			
12	Correlation Co-efficient		0.8850

The results would be **0.8850** which is interpreted as that marks obtained are 88.50% incidental to the amount of time spent upon preparation for the subject. It could also be said that the marks obtained have a high positive relationship with the time spent for preparation. So, this proves in general that higher the effort put in studies, higher could be the marks obtained.

Correlation for two or more related variable could also be done using the data analysis tools available in excel.

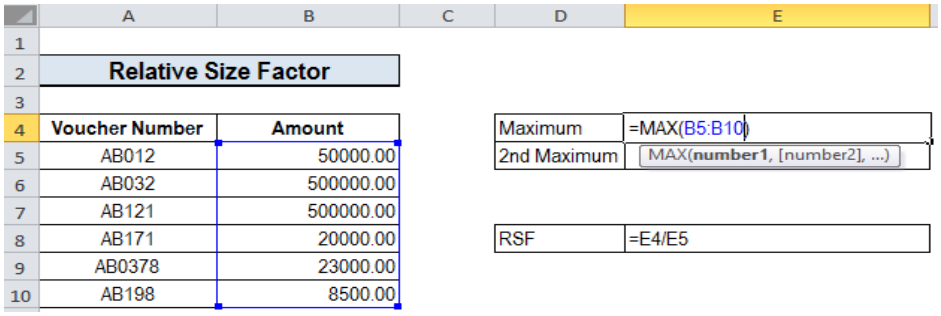
Some more examples of correlation are:

1. Higher the temperature, higher is the sale of cold drinks/ice creams and vice versa. Similarly, in the cold season, the temperature is lower but the sale of hot beverages is higher.
2. Lower the tax rates, higher is the available amount with tax payers and higher is the spending or savings.
3. Higher the expenditure spend by government on health care, lower is the health cost by citizens.

Exercise 4.8: Relative Size Factor (RSF)

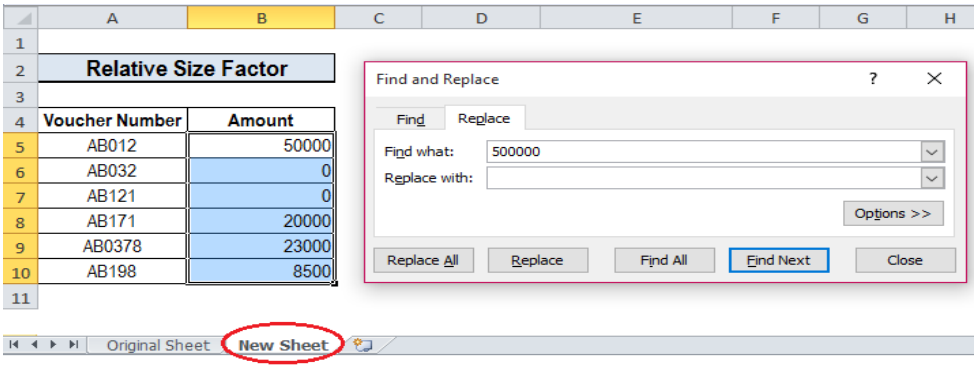
Output

Step -1: - from the given data find out the maximum value for the Amount column using the Max function.

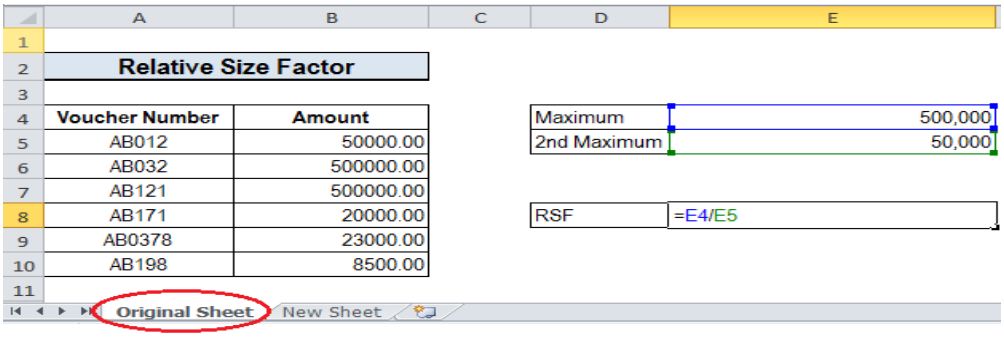


	A	B	C	D	E
1					
2	**Relative Size Factor**				
3					
4	**Voucher Number**	**Amount**		Maximum	=MAX(B5:B10)
5	AB012	50000.00		2nd Maximum	MAX(**number1**, [number2], ...)
6	AB032	500000.00			
7	AB121	500000.00			
8	AB171	20000.00		RSF	=E4/E5
9	AB0378	23000.00			
10	AB198	8500.00			

Step -2: - For calculating 2nd Maximum value, duplicate the data in a separate sheet and rename the sheet as "New Sheet" then replace the Maximum value as determined in step-1 in the amount column with zero using the Find & Replace function. Perform the Step-1 again with the resultant data to find out the 2nd Maximum value.



Step 3: - After determining the 2nd Maximum value in the new sheet come back to the Original sheet and calculate the RSF by dividing the Maximum value with the 2nd Maximum value.



	A	B	C	D	E
1					
2	**Relative Size Factor**				
3					
4	**Voucher Number**	**Amount**		Maximum	500,000
5	AB012	50000.00		2nd Maximum	50,000
6	AB032	500000.00			
7	AB121	500000.00			
8	AB171	20000.00		RSF	=E4/E5
9	AB0378	23000.00			
10	AB198	8500.00			
11					

Original Sheet | New Sheet

The Maximum value in above table = Rs 5, 00,000/- and the second Maximum value is Rs. 50,000. Therefore the RSF in this case = 10 that is Rs 5, 00,000 Lacs divided by Rs. 50,000. The above example covers only one set of transactions. If there are multiple set of transactions, then RSF has to be computed for each set of transaction.

Additional Test

Using excel file in Exercise5.8a.xlsx, which contains the sales for January 2015, find out RSF as per the customer ID. (Hint: use pivot table to identify maximum value as per customer Id. Repeat this process for second maximum after removing 1st Maximum and then apply RSF)

C. Chapter 5 : Application of MS Excel

Exercise 5.3 Tax Calculations

Example 2: By using VLOOKUP function

Output

M/s. Being Computerised Co.
Tax Computation Sheet

Assessment Year 2012-13	
Name	Shri Ram
GTI	1000000
Tax	=(GTI-E10)*E11+E12
Education Cess	=B7*2%
SHE Cess	=B7*1%
Total Tax	=SUM(B7:B9)

For	Male Less < 60 Yrs	
GTI	Rate	Amt+
1	0	0
180000	0.1	0
500000	0.2	=(D7-D6)*E6
800000	0.3	=(D8-D7)*E7+F7

Slab	=VLOOKUP(GTI,MaleLT60,1)
Tax Rate	=VLOOKUP(GTI,MaleLT60,2)
Amt+	=VLOOKUP(GTI,MaleLT60,3)

Exercise 5.10: Depreciation Accounting Case Study

Output

		WDV Method		Excel Depreciation Functions			
Year	SLM	WDV	Dep.	SLM	DB	DDB	SYD
1	10,000	110,000	22,000	10,000	23,430	22,000	18,182
2	10,000	88,000	17,600	10,000	18,439	17,600	16,364
3	10,000	70,400	14,080	10,000	14,512	14,080	14,545
4	10,000	56,320	11,264	10,000	11,421	11,264	12,727
5	10,000	45,056	9,011	10,000	8,988	9,011	10,909
6	10,000	36,045	7,209	10,000	7,074	7,209	9,091
7	10,000	28,836	5,767	10,000	5,567	5,767	7,273
8	10,000	23,069	4,614	10,000	4,381	4,614	5,455
9	10,000	18,455	3,691	10,000	3,448	3,691	3,636
10	10,000	14,764	2,953	10,000	2,714	2,953	1,818
Total	100,000		98,189	100,000	99,974	98,189	100,000

Exercise 5.11 Cash Budgeting Case Study

Step-1: Open the practical file for Cash Budget Case Study from NEWCS_EXCEL folder, having basic structure of the required statements.
Step-2: Cash Budget computations using formula = (1+F7)*E6 (where F7=10% Growth Rates, E6=100,000 Sales Revenue) and replicate the formulae for Sales Revenue.
Step-3: Credit Sales computations using formula =C6*$B$8 (where C6=Total Sales Revenue for the month of April, B8 is the cell reference of Credit Sale percentage.

Output

	A	B	C	D	E	F	G	H	I	J	K	L
1	M/s. Being Computerised Co. Ltd.											
2												
3	Cash Budget											
4												
5	**Particulars**	**Rates**	**Apr-11**	**May-11**	**Jun-11**	**Jul-11**	**Aug-11**	**Sep-11**	**Oct-11**	**Nov-11**	**Dec-11**	**Jan-12**
6	Sales Revenue		80,000	90,000	1,00,000	1,10,000	1,32,000	1,71,600	1,88,760	2,26,512	2,94,466	3,23,912
7	Growth Rate					10%	20%	30%	10%	20%	30%	10%
8	Credit Sales	40%	32,000	36,000	40,000	44,000	52,800	68,640	75,504	90,605	1,17,786	
9	**Receipts**											
10	Cash B/d					1,00,000	20,000	20,000	27,748	20,000	20,000	
11	Cash Sales					66,000	79,200	1,02,960	1,13,256	1,35,907	1,76,679	
12	Debtors Collection		20%	30%	50%	37,200	41,200	47,600	58,960	68,904	81,682	
13	Short Term Loan					49,600	30,501	-	1,04,961	67,087	-	
14	**Total**					**2,52,800**	**1,70,901**	**1,70,560**	**3,04,925**	**2,91,899**	**2,78,361**	
15	**Payments**											
16	Materials	40%			44,000	52,800	68,640	75,504	90,605	1,17,786	1,29,565	
17	Wages/ Salaries/ PM	20%				20,000	22,000	26,400	34,320	37,752	45,302	
18	Rent	1,50,000				1,50,000			1,50,000			
19	Overheads/ PM	10,000				10,000	10,000	10,000	10,000	10,000	10,000	
20	ST Loan Repayment					-	49,600	30,501	-	1,04,961	67,087	
21	Intrest on ST Loan	16%				-	661	407	-	1,399	894	
22	Cash Balance C/d				1,00,000	20,000	20,000	27,748	20,000	20,000	25,512	
23	**Total**					**2,52,800**	**1,70,901**	**1,70,560**	**3,04,925**	**2,91,899**	**2,78,361**	
24	Cash Balance					-29,600	-10,501	27,748	-84,961	-47,087	25,512	

Exercise 5.14: Marginal Costing Case Study

Output

1	**Marginal Cost Statement**			
2				
3	**M/s. ABC & Co.**			
4				
5	**Perticulars**	**Qty**	**Rate**	**Amount**
6	Sales Revenue	1,000	100	100,000
7	Variable Costs			
8	Direct Material		5	5,000
9	Direct Labour		10	10,000
10	Direct Expenses		20	20,000
11	Total		35	35,000
12	Contribution		65	65,000
13	Fixed Costs			50,000
14	Profit (Loss)			15,000
15	Break Even Point			769
16	Break Even Sales			76,923

Exercise 5.15: Capital Budgeting Case Study

Output

1	**M/s. ABC & Co.**			
2	**Capital Budgeting Statement**			
3				
4	**Capital Cost**		**NPV**	**IRR**
5	10%		**20810**	**15.098%**
6				
7	**Year**	**Cash Flow**	**PV Factor**	**PV of CF**
8	1	-100000	0.909090909	-90909.09
9	2	20000	0.826446281	16528.93
10	3	20000	0.751314801	15026.30
11	4	20000	0.683013455	13660.27
12	5	20000	0.620921323	12418.43
13	6	20000	0.56447393	11289.48
14	7	20000	0.513158118	10263.16
15	8	20000	0.46650738	9330.15
16	9	20000	0.424097618	8481.95
17	10	20000	0.385543289	7710.87
18	11	20000	0.350493899	7009.88
19		**100000**		**20810.31**

Exercise 5.16: Monte Carlo Simulation Case Study

Output

1	**Monte Carlo Simulation Case Study**							
2	**M/s. ABC & Co.**							
3							**Iteration**	**Profit**
4	**Particulars**	**Revenue**	**Variable Cost**	**Fixed Cost**	**Total Cost**	**Profit**	1	201,735
5	Mean Forecast	1,000,000	600,000	200,000	800,000	200,000	2	177,025
6	Std. Deviation	10,000	5,000				3	201,391
7							4	224,235
8	**Simulation**	1,001,813	600,078	200,000	800,078	201,735	5	207,728
9							6	205,872
10							7	219,197
11							8	201,849
12							9	198,329
13							10	225,621
14							11	203,657
15							12	205,802
16							13	190,634
17							14	197,426
18							15	196,869
19							16	191,953
20							17	204,349
21							18	190,821
22							19	206,246
23							20	217,723
24							**Average**	203,423

Exercise 5.17: Sensitivity Analysis Case Study with MS-Excel What-If-Analysis

Output

1	**Sensitivity Analysis Case Study**				
2	**M/s. ABC & Co.**				
3	Sales Price/ Unit	60			
4	Cost/ Unit	40			
5	Discount Rate p.a.	10%			
6					
7	**Particulars**	**0**	**1**	**2**	**3**
8	Sales Volume/ Units	-	20,000	30,000	30,000
9	Sales Revenue	-	1,200,000	1,800,000	1,800,000
10	Cost of Sales	-	800,000	1,200,000	1,200,000
11	Cash Flows	-1,000,000	400,000	600,000	600,000
12					
13	**NPV**	**₹ 310,293.01**			
14	**IRR**	**26%**			

Exercise 5.17a: Sensitivity Analysis Case Study with MS-Excel What-If-Analysis

Scenario Analysis Case Study

Output

Open Scenario Analysis_CS.xlsx file from NEWCS_EXCEL folder and refer result sheet.

Scenario Summary					
		Current Values	**Best**	**Worst**	**Average**
Changing Cells:					
	TaxRate	50%	50%	30%	70%
	SalesGrowth	15%	15%	20%	15%
	CostGrowthRate	10%	10%	2%	10%
	SellingPriceGrowthRate	2%	2%	8%	2%
Result Cells:					
	NetPresentValue	6,700	6,700	18,440	4,020

Notes: Current Values column represents values of changing cells at time Scenario Summary Report was created. Changing cells for each scenario are highlighted in gray.

1	**Scenario Analysis Case Study**					
2	**M/s. ABC Co. Ltd.**					
3						
4	**Particulars**	**Amount**				
5	Tax Rate	50%				
6	Sales Units (Year 1)	1000				
7	Sales Growth P.A.	15%				
8	Price/ Unit (Year 1)	10.00				
9	Cost/ Unit (Year 1)	6.00				
10	Interest Rate	15%				
11	Cost Growth Rate	10%				
12	Selling Price Growth Rate	2%				
13						
14	**Year**	**1**	**2**	**3**	**4**	**5**
15	Sales Units	1,000.00	1,150.00	1,322.50	1,520.88	1,749.01
16	Selling Price	10.00	10.20	10.40	10.61	10.82
17	Cost/ Unit	6.00	6.60	7.26	7.99	8.78
18	Sales Revenue	10,000.00	11,730.00	13,759.29	16,139.65	18,931.81
19	Cost of Sales	6,000.00	7,590.00	9,601.35	12,145.71	15,364.32
20	Profits Before Tax (PBT)	4,000.00	4,140.00	4,157.94	3,993.94	3,567.49
21	Taxes	2,000.00	2,070.00	2,078.97	1,996.97	1,783.74
22	Profits after Tax (PAT)	2,000.00	2,070.00	2,078.97	1,996.97	1,783.74
23						
24	**Net Present Value**	**6,700**				

Exercise 5.18: Consolidation & Summarization Case Study

Output

	A	B	C	D	E	F	G
1	**The Institute of Chartered Accountants of India**						
2	**Board of Studies**						
3							
4	**Consolidated Report For Quarter - I**						
5							
6	**Course**	**East**	**West**	**North**	**South**	**Central**	**Total**
7	ITT Course	970	970	970	970	970	4,850
8	Orientation Programme	844	844	844	844	844	4,220
9	GMCS-I	682	682	682	682	682	3,410
10	GMCS-II	601	601	601	601	601	3,005
11	Advanced ITT Course	502	502	502	502	502	2,510
12	**Total**	3,599	3,599	3,599	3,599	3,599	**17,995**

3.
MS – Excel as Audit Tool

A. Introduction

As we know that CAAT Software assists us in undertaking a number of useful functions for our audit work very easily at the click of a button. But what happens when we go for audit and we do not have these software available. Does it mean that we cannot use these features/ facilities in our audit? You can indeed undertake most of these functions through MS-Excel, which is generally available on most computers and laptops today. We shall study how to using MS-Excel as Audit Tool. That is the subject matter of study, in this section.

Sr. No.	Chapter Title	Exercise
1	Useful Functions for Auditing	05
2	Formula Auditing	05
3	Data Analysis Using MS Excel	05
4	Exercise on Excel as an Audit Tool Part-1	06
5	Exercise on Excel as an Audit Tool Part-2	22
	Total	**43**

Note: All the Case Study related files are available EXCEL_AUDIT_TOOL folder.

A. Useful Functions for Auditing

Exercise 1.1 – Project Analysis

Refer to the file 'Exercise No 1.1 - Project Analysis'

Virat is doing project analysis for his company. There are 2 projects which are considered by him. The cash flows related to these projects are as given;

Virat determines that for project analysis deriving NPV and IRR may make sense. Accordingly he makes use of NPV and IRR functions. However, he feels something has gone wrong.
You are expected to review the file and answer the following questions:

1. The NPVs don't appear to be right. What changes need to be made to obtain the right NPVs?
2. Why is #NUM! Error generated on inserting IRR function?
3. Sum total of cash flows in both projects is the same. Nevertheless, which project will you choose if you can select only one project? Why?

Exercise 1.2 – Depreciation

Refer to the file 'Exercise No 1.2 - Depreciation'

Juhi is performing statutory audit of a company. Her auditee had bought an asset during the current year. She wants to calculate and hence verify the end-of-the-year depreciation, using declining balance method. You are expected to review the file and answer the following questions:

1. Which function will be suitable for this purpose?
2. What will be the depreciation value as on 31st March, 2018 (the year ending date)?
3. Prepare a depreciation schedule till the asset is completely written off.

Exercise 1.3 – Dates

Robin is required to work on dates. In this context, he has approached you for guidance.

Refer to the file 'Exercise No 1.3 – Dates – Sheet 1'

Robin has a collection of dates. He wants to generate the month end dates corresponding to them. How this can be done?

Refer to the file 'Exercise No 1.3 – Dates – Sheet 2'

Robin wants to know the number of working days, (excluding Saturdays and Sundays) between two dates. There are also some holidays falling on weekdays, which are given in column G. He is not sure how to calculate the exact number of working days.

Exercise 1.4 – Comparison of Texts

Refer to the file 'Exercise No 1.4 - Comparison'

1. Neeta wants to compare one set of names with the second set of names. How this can be done, assuming that she doesn't intend to do a case sensitive comparison?
2. Assuming that she wants to perform a case sensitive comparison, what different approach she needs to adopt?

Exercise 1.5 – Plotting of Share Prices

Refer to the file 'Exercise No 1.5 - VLOOKUP and IFERROR

Salim is auditing a mutual fund scheme. He wants to confirm whether the portfolio held by that scheme is properly valued or no. For this, he has obtained the holding of the shares. Now he wants to plot their market prices. Some of the shares are listed only on BSE while others are listed on NSE as well as BSE. As per the valuation policy of the mutual fund scheme, shares held should be valued at NSE closing price. If a share is not listed on NSE or its NSE quote is not available, then it should be valued at BSE closing price.

For this purpose, Salim has obtained the NSE and BSE bhavcopies. However, he is not sure how he is going to bring those prices beside the shares. Also, he is confused how to bring the price from the right market, depending upon where a particular share is listed.

He has approached you for the guidance. Help him construct a single formula which will plot the NSE closing price, based on the Scrip Code. If NSE closing price is not available, then BSE closing price should be plotted.

B. Formula Auditing

Exercise 2.1 – Evaluating Formula

Refer to the file 'Exercise No 2 - Formula Auditing'

Consider the formula in the cell D17 of the above file. Evaluate the formula step-by-step and gain an understanding as to how exactly the cell D17 has been evaluated to 4.165.

Exercise 2.2 – Tracing Precedents

Refer to the file 'Exercise No 2 - Formula Auditing'

Consider the formula in the cell F19. Trace the precedents, if any, for this cell. Do this for all levels of precedents. You are expected to do this using the formula auditing as well as Go To Special window.

Exercise 2.3 – Tracing Dependents

Refer to the file 'Exercise No 2 - Formula Auditing'

Consider the formula in the cell F9. Trace the Dependents, if any, for this cell. Do this for all levels of Dependents. You are expected to do this using the formula auditing as well as Go To Special window.

Exercise 2.4 – Error Checking

Refer to the file 'Exercise No 2 - Formula Auditing'

Are there any errors in this file? If yes, rectify them.

Exercise 2.5 – Show Formulas

Refer to the file 'Exercise No 2 - Formula Auditing'

Open all the formulas in the worksheet Sheet1 at once. Which of these cells of this sheet contain formulas? Examine and then return back to normal view.

C. Data Analysis Using MS Excel

Exercise 3.1 – Remove Duplicates

Refer to the file 'Exercise No 3.1 - Remove Duplicates'

Remove all the duplicate records from the above file.

Exercise 3.2 – Pivot Tables

Refer to the file 'Exercise No 3.2 - Pivot Tables'

Consider the data in the above file. Insert a Pivot Table for this data and answer the following questions:

1. How many material codes belong to class 0? And how many belong to class 3?
2. How many material codes have either PAIL or DRUM as their Labeling Unit?
3. Apply Report filter on 'Inventory Type' feld. Select filtering value as Cool but fgd. How many material codes are shown?

Exercise 3.3 – Benford's Law

Refer to the file 'Exercise No 3.3 - Benford's Law'

Consider the closing prices as given in the column F of the above file. Test whether they conform to the pattern suggested by Benford's Law.

Exercise 3.4 – Gap Detection

Refer to the file 'Exercise No 3.4 – Gap Analysis'

There is a list of all invoices raised during the financial year 2017-18. We suspect that some invoices are missing. Identify whether invoices are indeed missing. If yes, also come up with a list of all such invoices which are missing.

Exercise 3.5 – Sampling

Refer to the file 'Exercise No 3.5 - Sampling'

This file contains a list of 5000 accounts. You are required to draw out a sample of 1000 accounts, using Data Analysis feature (Analysis Toolpak add-in).

D. Exercise on Excel as an Audit Tool Part-1

Exercise 4.1: File Import and Statistics Case Study **ELM3**

As we know using CAATs, we can import text/ flat, database and other files into MS-Excel for analysis. You are required to import the file tab delimited text file named Exercise4.1_DetailedSales.txt in "Excel_Audit_Tool" folder. Once the file has been successfully imported, you get the "Exercise4.1_Statistics.xls" file available in the "Excel_Audit_Tool" folder. You are required to generate Descriptive Statistics for the field Sales_Plus_Tax through the Data Menu→Data Analysis→Descriptive Statistics. A screenshot of the imported file is as follows:

	A	B	C	D	E	F	G	H	I	J
1	INV_NO	INV_DATE	SALESREP_NO	CUSTNO	PROD_CODE	UNIT_PRICE	QTY	SALES_BEF_TAX	SALES_TAX	SALES_PLUS_TAX
2	1000047	24-07-06	101	21254	5	5.99	72	431.28	43.13	474.41
3	1000054	20-03-06	101	21256	5	5.99	63	377.37	37.74	415.11
4	1000115	13-06-06	101	21257	5	5.99	1209	7241.91	724.19	7966.10
5	1000171	02-06-06	101	21274	5	5.99	250	1497.50	149.75	1647.25
6	1000199	21-03-06	101	21285	5	5.99	435	2605.65	260.57	2866.22
7	1000219	28-04-06	101	21304	5	5.99	360	2198.33	219.83	2418.16
8	1000254	07-03-06	101	21330	5	5.99	700	4193.00	419.30	4612.30
9	1000256	01-06-06	101	21339	5	5.99	250	1497.50	149.75	1647.25
10	1000448	22-06-06	101	21340	5	5.99	8	47.92	4.79	52.71
11	1000617	25-12-06	101	21341	5	5.99	168	1006.32	100.63	1106.95
12	1000666	04-09-06	101	21342	5	5.99	250	1497.50	149.75	1647.25
13	1000732	29-09-06	101	21395	5	5.99	63	377.37	37.74	415.11
14	1000766	18-12-06	101	21400	5	5.99	58	347.42	34.74	382.16
15	1000772	03-07-06	101	21402	5	5.99	101	604.99	60.50	665.49
16	1000852	25-12-06	101	21403	5	5.99	57	341.43	34.14	375.57

Students are advised to view the detailed steps for this Case Study in the e-Learning module on Using MS-Excel as an Audit Tool named as ELM3 in this chapter.

Note – For above use Exercise4.1_DetailedSales.txt and Exercise4.1.xlsx file from EXCEL_AUDIT_TOOL folder.

Exercise 4.2: Stratification Case Study **ELM3**

As we know that using CAATs/ GAS, these tools enable us to Stratify Data, for example aging analysis. This stratification can be also done in MS-Excel by first defining the strata to which an item belongs using the IF function and then summing up values belonging to respective strata using SUMIF function of MS-Excel and count items belonging to respective strata using COUNTIF function. The File named Exercise4.2_Stratification.xls in the EXCEL_AUDIT_TOOL folder contains the Detailed Sales file that we had imported into MS-Excel in the earlier Case Study. You are required to stratify the Sales_Plus_Tax values for Number of Items and Sum of Items belonging to following strata's: (a) Less Than 10000, (b) 10001 to 20000, (c) 20001 to 100000 and (d) Above 100000.

Students can view detailed steps for Stratification in the Case Study by this topic in e-Learning module on "Using MS-Excel as an Audit Tool"

Note – For above use Exercise4.2_Stratification.xlsx file from EXCEL_AUDIT_TOOL folder.

Exercise 4.3: Duplicate and Gap Detection Case Study **ELM3**

CAAT/ GAS tools enable us to find Duplicates and Gaps. Duplicates and Gaps can also be detected using MS-Excel. The process is very simple: Sort the items and check whether there is a gap/ or duplicate in the list by viewing if the subsequent item number is same or has a gap above one digit.

Students can view detailed steps for detecting Duplicates and Gaps in the Case Study by this topic in e-Learning module on "Using MS-Excel as an Audit Tool"

Note **–** For above use Exercise4.3_Gaps-Duplicates.xlsx file from EXCEL_AUDIT_TOOL folder.

Exercise 4.4: Sorting Case Study **ELM3**

Students are required to sort the invoices in Detailed Sales sheet from Sample.xlsx file from EXCEL_AUDIT_TOOL folder and sort ascending on INV_DATE.

Note – For above use Exercise4.4_Sample.xlsx file from EXCEL_AUDIT_TOOL folder.

Exercise 4.5: Aging Analysis Case Study **ELM3**

Aging Analysis is an example of Stratification. Students are required to age invoices from Exercise4.5_Aging.xlsx file for upto one month, upto two months, up to three months and above three months. Students can view detailed steps for Aging Analysis Case Study by this topic in e-Learning module on "Using MS-Excel as an Audit Tool".

Note – For above use Exercise4.5_Aging.xlsx file from EXCEL_AUDIT_TOOL folder.

Exercise 4.6: Pivot Table Case Study **ELM3**

Pivot Tables are a great facility in MS-Excel to summarise data and generate reports. Aging Analysis can also be done using Pivot Tables. Students are advised to go through the Case Study by this topic in e-Learning module on "Using MS-Excel as an Audit Tool" to have a deeper understanding on use of Pivot Tables and practice using the PivotTableReport.

Note – For above use Exercise4.6_ PivotTableReport.xlsx file from EXCEL_AUDIT_TOOL folder.

E. Exercise on Excel as an Audit Tool Part-2

Exercise 4.7: Importing Data from MS Access in MS Excel **ELM3**

Note – Here use Exercise4.7_XYZ_CORP.dbf file from EXCEL_AUDIT_TOOL folder.

Exercise 4.7a: Exporting Data from MS Excel to Text File format. **ELM3**

Note – Here use Exercise4.7a.xls file from EXCEL_AUDIT_TOOL folder.

Exercise 4.8: Benford's Law Case Study **ELM3**

Note – Here use Exercise4.8_BenfordCS.xls file from EXCEL_AUDIT_TOOL folder.

Exercise 4.9: Summarization Case Study **New**

Sales data is given for Ms. ABC & Co. Based on the data create a pivot table and verify total sales as per customers.

Also do the following

- Verify whether the transactions are within the financial year.
- Summarize Net Amount by Date to find daily sales.
- Summarize Employee ID by Commission paid.
- Summarize Employee ID by Net Amount.
- Summarize transactions as per Discount rate.

Note – Here use Sales sheet from Exercise4.9_Summarization.xlsx file from EXCEL_AUDIT_TOOL folder.

Exercise 4.10: Data Extraction Case Study **New**

Sales data is given for Ms. ABC & Co. Based on the data identify and extract transactions of customer with highest sales.

- Extract records with blank Invoice Numbers.
- Extract records with blank Addresses.
- Extract records made by a selected employee.
- Extract transactions of customer with highest value of sale (using sub-total and sort)

Note – Here use Exercise4.9.xlsx file from EXCEL_AUDIT_TOOL folder.

Exercise 4.11: Consolidation of Data Case Study **New**

Here students are requested to find the sum of expenses of April, May and June as per head of account to prepare total expenses of the quarter.

Note – Here use Exercise4.9.xlsx file from EXCEL_AUDIT_TOOL folder.

Exercise 4.12: Compute 7th of next month **New**

Computing due dates of statutory payments based on invoice dates. Used to check whether payment has been made on or before due date.

Note – Here use Exercise4.12.xls from EXCEL_AUDIT_TOOL folder.

Exercise 4.13: Compute 90 days vs. 3.0 months from Invoice Date **New**

Computing exact due dates for debtors, tender cut-off date, project deadline

Note – Here use Exercise4.13.xls from EXCEL_AUDIT_TOOL folder.

Exercise 4.14: Compute Days from given list of Dates. E.g. Sunday, Monday etc. New

- Derive day (e.g. Saturday, Sunday) to analyse sales data (day-wise sales trend), locating ghost employees if their date-of-join falls on Sunday, ensuring deadline dates does not fall on a Sunday
- Representing dates in "dd/mm/yyyy" format as required while uploading dates during e-filing of VAT returns

Note – Here use Exercise4.14.xls from EXCEL_AUDIT_TOOL folder.

Exercise 4.15: Cleaning dates from ERP downloaded "DD.MM.YYYY" format in to Excel acceptable "MM/DD/YYYY" format New

Pre-requisite step before applying date-based Sorting, Filtering and applying Date formulas such as =EDATE (), EOMONTH (), TEXT () etc.

Note – Here use Exercise4.15.xls from EXCEL_AUDIT_TOOL folder.

Exercise 4.16: Adding Subtotal at the end of every Category of item New

Documentation of Inventory items by Category, Fixed Asset items by Asset Class

	A	B	C	D	E	F	G	H	I
1	Date	Invoice Number	Vendor ID	Name	Vendor Address	Unit Price	Quantity	Amount	Employee ID
2	01-12-14	PINV/1192	PD/10293	TOUCH SONIC	793, GOWSHALA ROAD	2000	40	80000	SS
3	01-12-14	PINV/1193	PD/11147	M. K KHAN	SCHEME NO 6, NANDA PATKAR ROAD	500	20	10000	SS
4	02-12-14	PINV/1194	PD/10293	TOUCH SONIC	793, GOWSHALA ROAD	700	40	28000	SS
5	03-12-14	PINV/1195	PD/10654	STAG ENTERPRISES	RUTU TOWERS, HIRANANDANI ESTATE	700	40	28000	GK
6	03-12-14	PINV/1196	PD/10654	STAG ENTERPRISES	RUTU TOWERS, HIRANANDANI ESTATE	2000	30	60000	VR
7	04-12-14	PINV/1198	PD/10555	GENIE CONTROL SYSTEMS LTD.	176B VALJI LADHA ROAD	1000	40	40000	GK
8	04-12-14	PINV/1199	PD/10825	BD SOLUTIONS PVT. LTD	734 JATASHANKAR DOSA ROAD	100	50	5000	DA
9	05-12-14	PINV/1200	PD/10293	TOUCH SONIC	793, GOWSHALA ROAD	700	50	35000	GK
10	05-12-14	PINV/1201	PD/10825	BD SOLUTIONS PVT. LTD	734 JATASHANKAR DOSA ROAD	1200	20	24000	DA
11	06-12-14	PINV/1202	PD/10288	COMBINED AGENCIES & SUPPLIES	16 OPP LAL BUNGLOW	300	50	15000	GK
12	08-12-14	PINV/1203	PD/10825	BD SOLUTIONS PVT. LTD	734 JATASHANKAR DOSA ROAD	100	50	5000	VR
13	09-12-14	PINV/1204	PD/10654	STAG ENTERPRISES	RUTU TOWERS, HIRANANDANI ESTATE	600	20	12000	DA

Note – Here use Exercise4.16.xls from EXCEL_AUDIT_TOOL folder.

Exercise 4.17: Cleaning Database – Deleting the Errors New

Remove the errors based on the given data. (Final Documentation & Reporting)

Note – Here use Exercise4.17.xls from EXCEL_AUDIT_TOOL folder..

Exercise 4.18: Filling up Blank cells with appropriate date pieces to enable use of Filter & Pivot table New

Prepare ERP downloaded raw data file (e.g. Vendor Master, Transaction files) for further analysis

Note – Here use Exercise4.18.xls from EXCEL_AUDIT_TOOL folder.

Exercise 4.19: Debtors Ageing New

Preparing ERP downloaded raw data file (e.g. Vendor Master, Transaction files) for further analysis
VLOOKUP (lookup_value, table_array, col_index_num, range_lookup) with range_lookup as <True>

Note – Here use Exercise4.19.xls from EXCEL_AUDIT_TOOL folder.

Exercise 4.20: Finding Instances of Duplicates New

Finding how many times a particular Invoice No. / Voucher No. may have been duplicated.

Note – Here use Exercise4.20.xls from EXCEL_AUDIT_TOOL folder.

Exercise 4.21: Removing Duplicate Names to arrive at unique list New

Preparing a list of vendor names, client names, product names. Eliminating duplicate names will help us arrive at a list that has unique names.

Note – Here use Exercise4.21.xls from EXCEL_AUDIT_TOOL folder.

Exercise 4.22: Using Goal seek New

Computing the values of the precedent cells for the desired result.
To determine at what sales levels the enterprise would break even

	A	B
1	Particulars	Amount
2	Selling Price	600
3	Varaible Cost	250
4	Contribution per unit	350
5	Fixed cost	4200
6	Sale Units	15
7	Total Contribution	5250
8	Profit	1050

- With the sales quantity of 15 units, profit would be 1050
- We need to calculate with how many sales units the enterprise could achieve a BEP by using What-if-Analysis.

Note – Here use Exercise4.22.xls from EXCEL_AUDIT_TOOL folder.

Exercise 4.23: Precedents & Dependents **New**

Precedents: Shows arrows that indicate what cells affect the value of currently selected cell

Dependents: Shows arrows that indicate what cells are affected by the value of currently selected cells

Determine the cells that are affecting the value so Gross amount in the example below

	A	B	C	D	E	F	G	H	I
1	**Date**	**Units Sold**	**SP PU**	**Gross Amount**	**Amount Realised**	**Discount**	**Employee ID**	**Commission rate**	**Commission paid**
2	01-04-14	120	1540	184800	184260	540	MM	2.5	4620
3	01-04-14	110	1540	169400	168140	1260	RA	1	1694
4	02-04-14	85	1540	130900	128500	2400	MM	2.5	3272.5
5	02-04-14	120	1540	184800	184800	0	SF	5	9240
6	03-04-14	450	1540	693000	691750	1250	MM	1	6930
7	08-04-14	85	1540	130900	130150	750	MM	1	1309
8	11-04-14	450	1540	693000	692250	750	RA	1	6930
9	12-04-14	36	1540	55440	55440	0	RA	1	554.4
10	14-04-14	250	1540	385000	385000	0	MM	2.5	9625

Note – Here use Exercise4.23.xls from EXCEL_AUDIT_TOOL folder.

Exercise 4.24: Using IF function **New**

Note – Here use Exercise4.24.xls from EXCEL_AUDIT_TOOL folder.

Exercise 4.25: Two Way Lookup Command **New**

Branch A of a Bank has carried out various Foreign Exchange (FX) Transactions during the year. As an auditor you are required to be review the FX Rates applied as against the Card Rate published by the bank for the day. Transactions are different currencies viz. EUR, USD, GBP, INR.

Identify the cases wherein the FX Rates other than Card Rates have been applied. Charging excess rate from customer for FX Conversion is a Customer Service issue and also against regulatory guidelines. As against the same charging lesser rate from customer for FX Conversion is a Revenue Leakage for bank.

Note – Here use Exercise4.25.xls from EXCEL_AUDIT_TOOL folder.

Exercise 4.26: Case Study of Payroll Frauds **New**

You are performing internal audit of ABC Company and have decided to perform the following tests to confirm whether fraud has been committed in payroll. The tests with sample data, results and additional test to be performed are given here.

Example 1:-

Identify whether salary has been paid only to employees in employee master file.

Files to use:

1. Employee master file.
2. Payroll file

Tests to Perform:

Compare Employee ID's in Employee Master file with Employee ID's on Payroll.

Steps to perform Test:

Step 1: In the Employee_Master file, use the following Excel formula:

=VLOOKUP (B2, Payroll! $B$2:$B$17, 1)

Step 2: Use Excel's Auto-fill function to apply the formula to all the records.

	A	B	C	D	E	F	G	H	I
1	Department	Employee ID	Employee Name	Employee Join Date	Employee Termination Date	Employee Address	Telephone Number	Limit	ID Check
2	Purchase	SS	Sripriya S	20-06-2005		ORCHID PETALS, SECTOR - 49	9871381980	25000	SS
3	Purchase	VR	Venkata Ramanan	26-06-2004		A-186 MOTI BAGH-I	9611372372	100000	VR
4	Purchase	GK	Ganesh K	09-03-2012		734/3, G.T. ROAD, NEAR GANDHI GROUND	9999903879	80000	GK
5	Purchase	LN	Lakshmi Narayan	08-02-2014			9310815055	80000	LN
6	Purchase	DA	Devendiran A	26-11-2002		PLOT NO 29 SARITA VIHAR	9871884909	100000	DA
7	Purchase	AB	Anand Bhat	17-04-2001		7/115 D & E SWAROOP NAGAR	9322291921	80000	#N/A
8	Purchase	JD	Jayashree D	05-03-2005	31-01-2012	12, 1ST FLOOR UTTAM NAGAR	9811094522	50000	JD
9	Purchase	AD	Alok Dhanshankar	01-07-2003	01-05-2006				AD
10	Sales	RK	Ratnam K	19-01-2006		34, G T B NAGAR	9999609650	35000	RK
11	Sales	SF	Sitaram F	29-07-2003		2, 2ND FLOOR, BOH ROAD	9814602890	50000	SF
12	Sales	AA	Ashok Agarwal	14-03-2003		42, WEST MUKHERJEE NAGAR	9810075503	60000	AA
13	Sales	MM	Madhuri Madkholkar	26-05-2014		793, GOWSHALA ROAD	9810458476	70000	MM
14	Sales	RA	Ragini Ashok	05-06-2007	31-07-2014	9/779, HARPAL NAGAR	9873182560	100000	#N/A
15	Sales	SA	Siva Asad			176B VALJI LADHA ROAD			#N/A
16	Sales	AR	Agarwal Rajiv	06-07-2002		GALLI NO-5 BHOLA NATH NAGAR	9871344968	50000	AR

Inference:

- The results show all rows where ID's do not match with the payroll file.
- **(#N/A)** are records that exist in the Employee Master file but not in the Payroll file indicating that some employees have not been paid salary.
- Employees who have been terminated (Employee ID: **JD** & **AD**) should not have appeared in the Payroll file but they do and have possibly been paid salary even though they are no longer with the company.

Step 3: In the Payroll file, use the following Excel formula:

=VLOOKUP (B2, Employee_Master! $B$2:$B$16, 1, FALSE)

Step 4: Use Excel's Auto-fill function to apply the formula to all the records.

	A	B	C	D	E	F	G	H	I	J	K
1	Month	Employee ID	Employee Name	Employee Address	Basic	DA	Other Allowances	Gross Salary	Deductions	Net Salary	ID Check
2	April	SS	Sripriya S	ORCHID PETALS, SECTOR - 49	21444	2202	1354	25000	233	24767	SS
3	April		Satish KS	25/31, III FLOOR, DR A M RD	20029	971	2000	23000	219	22781	#N/A
4	April	VR	Venkata Ramanan	A-186 MOTI BAGH-I	27444	2556	0	30000	522	29478	VR
5	April	GK	Ganesh K	6-6, MAHALAXMI ROAD	10531	2251	2218	15000	343	14657	GK
6	April	LN	Lakshmi Narayan	PLOT NO 166 SECTOR 12	3333	1667	0	5000	53	4947	LN
7	April	DA	Devendiran A	PLOT NO 29 SARITA VIHAR	7234	1934	832	10000	153	9847	DA
8	April	JD	Jayashree D	12, 1ST FLOOR UTTAM NAGAR	18342	2341	4317	25000	233	24767	JD
9	April	AD	Alok Dhanshankar		13556	1444	0	15000	343	14657	AD
10	April	RK	Ratnam K	37, BHANDARI STREET	19433	2567	0	22000	215	21785	RK
11	April	SF	Sitaram F	2, 2ND FLOOR, BOH ROAD	20029	971	2000	23000	219	22781	SF
12	April	AA	Ashok Agarwal	42, WEST MUKHERJEE NAGAR	43934	1066	0	45000	1531	43469	AA
13	April	KK	Kiran Kumar		11352	2312	1336	15000	343	14657	#N/A
14	April	MM	Madhuri Madkholkar	793, GOWSHALA ROAD	3333	1667	0	5000	53	4947	MM
15	April	AR	Agarwal Rajiv	GALLI NO-5 BHOLA NATH NAGAR	17234	781	1985	20000	335	19665	AR
16	April	GK	Ganesh K	6-6, MAHALAXMI ROAD	10531	2251	2218	15000	343	14657	GK
17	April	KK	Kiran Kumar		11352	2312	1336	15000	343	14657	#N/A

Inference:

- The results show all rows where ID's do not match.
- **(#N/A)** are records that exist in the Payroll file but not in the Employee Master file indicating that salary has been paid to employees that are no longer with the company.

Example 2:-

Identify whether any employees are vendors.

Files to use:

1. Employee master file.
2. Vendor master file

Tests to Perform:

Compare Employee Addresses to Vendor Addresses

Steps to perform Test:

Step 1: In the **Employee Master** file, use the following Excel formula:

=VLOOKUP (F2, Vendor_Master!$C$2:$C$12,1,FALSE)

Step 2: Use Excel's **Auto-fill** function to apply the formula to all the records.

	A	B	C	D	E	F	G	H	I
1	Department	Employee ID	Employee Name	Employee Join Date	Employee Termination Date	Employee Address	Telephone Number	Limit	Vendor Address Check
2	Purchase	SS	Sripriya S	20-06-2005		ORCHID PETALS, SECTOR - 49	9871381980	25000	#N/A
3	Purchase	VR	Venkata Ramanan	26-06-2004		A-186 MOTI BAGH-I	9611372372	100000	#N/A
4	Purchase	GK	Ganesh K	09-03-2012		734/3, G.T. ROAD, NEAR GANDHI GROUND	9999903879	80000	#N/A
5	Purchase	LN	Lakshmi Narayan	08-02-2014		PLOT NO 166 SECTOR 12	9310815055	80000	#N/A
6	Purchase	DA	Devendiran A	26-11-2002		PLOT NO 29 SARITA VIHAR	9871884909	100000	#N/A
7	Purchase	AB	Anand Bhat	17-04-2001		7/115 D & E SWAROOP NAGAR	9322291921	80000	#N/A
8	Purchase	JD	Jayashree D	05-03-2005	31-01-2015	12, 1ST FLOOR UTTAM NAGAR	9811094522	50000	#N/A
9	Purchase	AD	Alok Dhanshankar	01-07-2003	01-05-2006				#N/A
10	Sales	RK	Ratnam K	19-01-2006		34, G T B NAGAR	9999609650	35000	#N/A
11	Sales	SF	Sitaram F	29-07-2003		2, 2ND FLOOR, BOH ROAD	9814602890	50000	#N/A
12	Sales	AA	Ashok Agarwal	14-03-2003		42, WEST MUKHERJEE NAGAR	9810075503	60000	#N/A
13	Sales	MM	Madhuri Madkholkar	26-05-2014		793, GOWSHALA ROAD	9810458476	70000	793, GOWSHALA ROAD
14	Sales	RA	Ragini Ashok	05-06-2007	31-07-2014	9/779, HARPAL NAGAR	9873182560	100000	#N/A
15	Sales	SA	Siva Asad			176B VALJI LADHA ROAD			176B VALJI LADHA ROAD
16	Sales	AR	Agarwal Rajiv	06-07-2002		GALLI NO-5 BHOLA NATH NAGAR	9871344968	50000	#N/A

Inference:

The results show employees whose address matches the address of vendors indicating that these employees may have created fictitious companies to defraud their employer.

Example 3:-

Identify whether there are Ghost employees to whom salary has been paid.

File to use:

1. Payroll file.

Tests to Perform:

Compare Employee Addresses to Vendor Addresses

Steps to perform Test:

Identify employees who have paid salary but don't have an address.

Step 1: In the **Payroll** file, click on the **Data** menu and select the **Filter** function.

Step 2: Click on the drop down box on the bottom-right of the "**Employee Address**", "**Employee ID**", **etc.** cell. Click on the "**Select All**" check box to de-select all the options. Then, select only the "**(Blanks)"** option. Click OK.

	A	B	C	D	E	F	G	H	I	J
1	Month	Employee ID	Employee Name	Employee Address	Basic	DA	Other Allowances	Gross Salary	Deductions	Net Salary
9	April	AD	Alok Dhanshankar		13556	1444	0	15000	343	14657
13	April	KK	Kiran Kumar		11352	2312	1336	15000	343	14657
17	April	KK	Kiran Kumar		11352	2312	1336	15000	343	14657

	A	B	C	D	E	F	G	H	I	J
1	Month	Employee	Employee Name	Employee Address	Basic	DA	Other Allowanc	Gross Sala	Deductio	Net Sala
3	April		Satish KS	25/31, III FLOOR, DR A M RD	20029	971	2000	23000	219	22781

Inference:

The results show all records where employee address or the employee ID is blank.

Additional tests:

- Please check whether employees in employee master file are without address.
- Please identify employees whose address is different in employee master and payroll file.
- Re-compute net salary in payroll to identify errors in payroll computation.

Example 4:-

Identify whether there are any duplicate payment to same employee.

File to use:

1. Payroll file.

Tests to Perform:

Identify duplicate employee Id.

Steps to perform Test:

Step 1: In the **Payroll** file, select the column to perform duplicate check (**Employee ID**) click on the **Home** tab and select the **Conditional Formatting** function. Select **Highlight Cell Rules** and select the **Duplicate Values…** function.

Step 2: In the dialog box that pops up, click OK.

	A	B	C	D	E	F	G	H	I	J
1	Month	Employee ID	Employee Name	Employee Address	Basic	DA	Other Allowances	Gross Salary	Deductions	Net Salary
2	April	SS	Sripriya S	ORCHID PETALS, SECTOR - 49	21444	2202	1354	25000	233	24767
3	April		Satish KS	25/31, III FLOOR, DR A M RD	20029	971	2000	23000	219	22781
4	April	VR	Venkata Ramanan	A-186 MOTI BAGH-I	27444	2556	0	30000	522	29478
5	April	GK	Ganesh K	6-6, MAHALAXMI ROAD	10531	2251	2218	15000	343	14657
6	April	LN	Lakshmi Narayan	PLOT NO 166 SECTOR 12	3333	1667	0	5000	53	4947
7	April	DA	Devendiran A	PLOT NO 29 SARITA VIHAR	7234	1934	832	10000	153	9847
8	April	JD	Jayashree D	12, 1ST FLOOR UTTAM NAGAR	18342	2341	4317	25000	233	24767
9	April	AD	Alok Dhanshankar		13556	1444	0	15000	343	14657
10	April	RK	Ratnam K	37, BHANDARI STREET	19433	2567	0	22000	215	21785
11	April	SF	Sitaram F	2, 2ND FLOOR, BOH ROAD	20029	971	2000	23000	219	22781
12	April	AA	Ashok Agarwal	42, WEST MUKHERJEE NAGAR	43934	1066	0	45000	1531	43469
13	April	KK	Kiran Kumar		11352	2312	1336	15000	343	14657
14	April	MM	Madhuri Madkholkar	793, GOWSHALA ROAD	3333	1667	0	5000	53	4947
15	April	AR	Agarwal Rajiv	GALLI NO-5 BHOLA NATH NAGAR	17234	781	1985	20000	335	19665
16	April	GK	Ganesh K	6-6, MAHALAXMI ROAD	10531	2251	2218	15000	343	14657
17	April	KK	Kiran Kumar		11352	2312	1336	15000	343	14657

Inference:

The results show duplicate payments where same employee is been paid twice for the same month.

Additional Tests:

- Verify whether there are two employees are having same phone no.
- Generally, limit is related to seniority of scale. Hence, higher the salary, higher would be limit. Compare limit as per department with salary and identify whether there is any inconsistency.
- Summarise salary of payroll as per department.

Exercise 4.27: Case Study of Purchase frauds **New**

Purchases are a critical area which is prone to fraud and hence auditor has to perform tests to confirm whether data is correct and complete and to test for potential areas of fraud. The tests with sample data, results and additional test to be performed are given here.

Example 1:-

Identify whether there are any employees who are vendors by verifying common address.

Files to use:

1. Employee master file.
2. Vendor master file

Test to Perform:

Compare Employee address in Employee Master file with Vendor address in vendor master.

Steps to perform Test:

Step 1: In the **Vendor_Master** file, use the following Excel formula:

=VLOOKUP (C2, Employee_Master!$F$2:$F$16,1,FALSE)

Step 2: Use Excel's **Auto-fill** function to apply the formula to all the records.

	A	B	C	D	E
1	**Vendor ID**	**Name**	**Vendor Address**	**PAN**	**Address Check**
2	PD/11240	10 FRONT	22956 GROEN WOHLD	AVEAF2242N	#N/A
3	PD/10288	COMBINED AGENCIES & SUPPLIES	16 OPP LAL BUNGLOW	AGBEA5235H	#N/A
4	PD/10102	ARPITH COMPUTERS SERVICES PVT LTD	63 SHANKAR LANE	ABWRG525N	#N/A
5	PD/10825	BD SOLUTIONS PVT. LTD	734 JATASHANKAR DOSA ROAD	AQTVZ726GF	#N/A
6	PD/10555	GENIE CONTROL SYSTEMS LTD.	176B VALJI LADHA ROAD	AUGWS7934B	176B VALJI LADHA ROAD
7	PD/11289	MURTHY COLLEGE OF NURSING	25/31, III FLOOR, DR A M RD	AJDWE6113Y	#N/A
8	PD/10293	TOUCH SONIC	793, GOWSHALA ROAD	AOPGRX6513Z	793, GOWSHALA ROAD
9	PD/10287	VP POWERS SOLUTIONS	FLAT NO.303-A A WING ROAD	APPAM6512Q	#N/A
10	PD/11224	CELLTRON ELECTRONICS	53 A EVEREST VIHAR	AOWOQ7934W	#N/A
11	PD/10654	STAG ENTERPRISES	RUTU TOWERS, HIRANANDANI ESTATE	AONVV9835F	#N/A
12	PD/11147	M. K KHAN	SCHEME NO 6, NANDA PATKAR ROAD	AIOER4965Z	#N/A

Inference:

The results show vendors whose address matches the address of employees indicating that these may be fictitious vendors created by employees.

Example 2:-

Identify whether there are any employees who are vendors by verifying common address.

Files to use:

1. Purchase file.

Test to Perform:

Find duplicate invoice numbers in purchases.

Step 1: In the **Purchases** file, select the column to perform duplicate check (**Invoice Number**) click on the **Home** menu and select the **Conditional Formatting** function. Select **Highlight Cell Rules** and select the **Duplicate Values…** function.
Step 2: In the dialog box that pops up, click OK.
Step 3: To view only the duplicates, click on the **Data** menu and select the **Filter** function.
Step 4: Click on the drop down box on the bottom-right of the "**Invoice Number**" cell, select the **Filter by Colour** option and click on the colour under either **Filter by Cell Colour** or **Filter by Font Colour.**

	A	B	C	D	E	F	G	H	I	J
1	ac	Invoice Number	Vendor	Name	Vendor Address	Product ID	Unit Pri	Quanti	Amou	Employee ID
21	29-04-2014	PINV/1020	PD/10287	VP POWERS SOLUTIONS	FLAT NO.303-A A WING ROAD	G/40	500	30	15000	VR
22	30-04-2014	PINV/1020	PD/10288	COMBINED AGENCIES & SUPPLIES		G/28	700	20	14000	DA
23	30-04-2014	PINV/1020	PD/10287	VP POWERS SOLUTIONS	FLAT NO.303-A A WING ROAD	G/40	500	40	20000	AB
94	02-08-2014	PINV/1093	PD/10825	BD SOLUTIONS PVT. LTD	734 JATASHANKAR DOSA ROAD	G/35	250	50	12500	LN
95	05-08-2014	PINV/1093	PD/10654	STAG ENTERPRISES	RUTU TOWERS, HIRANANDANI ESTATE	G/35	250	30	7500	SS
96	05-08-2014	PINV/1093	PD/10654	STAG ENTERPRISES	RUTU TOWERS, HIRANANDANI ESTATE	G/28	700	40	28000	GK
97	06-08-2014	PINV/1093	PD/10555	GENIE CONTROL SYSTEMS LTD.	176B VALJI LADHA ROAD	G/31	1200	20	24000	SS
98	07-08-2014	PINV/1093	PD/11289	MURTHY COLLEGE OF NURSING	25/31, III FLOOR, DR A M RD	G/30	400	50	20000	DA
151	12-10-2014	PINV/1150	PD/10293	TOUCH SONIC	793, GOWSHALA ROAD	G/42	1000	20	20000	GK
152	12-10-2014	PINV/1150	PD/10102	ARPITH COMPUTERS SERVICES PVT LTD	63 SHANKAR LANE	G/30	400	40	16000	LN
153	12-10-2014	PINV/1150	PD/10654	STAG ENTERPRISES	RUTU TOWERS, HIRANANDANI ESTATE	G/35	250	30	7500	GK

Inference:

The results highlights duplicate invoice numbers in the Purchase file with the same invoice number for purchases made from different vendors on different dates which is highly unlikely. This could also indicate records where the same invoice has been split into multiple invoices and entered to overcome purchase limits put on employees.

Example 3:-

Identify Favourable treatment of Vendors and classifying vendors by value

Files to use:

1. Purchase file.

Test to Perform:

Step 1: In the **Purchases** file, select all the data in the worksheet (**Ctrl + A**), then click on the **Insert** tab and select **Pivot Table**. In the resulting dialog box, click OK.

Step 2: Drag "**Name**" from the PivotTable Fields dialog box and drop it under **Rows**. Drag "**Amount**" and drop it under **Values.**

4	Row Labels	Sum of Amount
5	10 FRONT	199000
6	ARPITH COMPUTERS SERVICES PVT LTD	446000
7	BD SOLUTIONS PVT. LTD	400500
8	CELLTRON ELECTRONICS	603500
9	COMBINED AGENCIES & SUPPLIES	337000
10	GENIE CONTROL SYSTEMS LTD.	259500
11	M. K KHAN	344000
12	MURTHY COLLEGE OF NURSING	275000
13	STAG ENTERPRISES	1987000
14	TOUCH SONIC	572500
15	VP POWERS SOLUTIONS	349000
16	(blank)	74000
17	**Grand Total**	**5847000**

Inference:

- The results show the total amount purchased from each vendor indicating favourable treatment given to one vendor (**STAG ENTERPRISES**) over all others.
- Purchases with no vendor name are also displayed under the **(blank)** category. These are all purchases where the name of the vendor has not been entered into the Purchase register. To view the purchases made by each vendor, double-click the name of that vendor.

Example 4:-

Identify Purchases by employees over their transaction limit

Files to use:

1. Employee Master file
2. Purchase file.

Test to Perform:

Step 1: In the **Purchases** file, use the following Excel formula:

=VLOOKUP (I2, Employee_Master!$B$2:$H$16,7,FALSE)

Name this column: **Limit**

Step 2: In another column, use the following Excel formula: =J2-H2. Name this column - **Difference**

Step 3: In the **Difference** column, click on the drop down box on the bottom-right of the cell, select the **Number Filters** option and select **Greater Than**. Type "**0**" in the dialog box that appears and click OK.

	A	B	C	D	E	F	G	H	I	J	K
1	Date	Invoice Number	Vendor ID	Name	Vendor Address	Unit Price	Quanti	Amou	Employee I	Limit	Difference
59	02/07/2014	PINV/1058	PD/10287	VP POWERS SOLUTIONS	FLAT NO.303-A A WING ROAD	2000	50	100000	GK	80000	-20000
62	03/07/2014	PINV/1061	PD/10654	STAG ENTERPRISES	RUTU TOWERS, HIRANANDANI ESTATE	1000	40	40000	SS	25000	-15000
99	07/08/2014	PINV/1098	PD/10288	COMBINED AGENCIES & SUPPLIES	16 OPP LAL BUNGLOW	2000	40	80000	SS	25000	-55000
100	09/08/2014	PINV/1099	PD/11224	CELLTRON ELECTRONICS	53 A EVEREST VIHAR	2000	20	40000	SS	25000	-15000
163	26/10/2014	PINV/1162	PD/10654	STAG ENTERPRISES	RUTU TOWERS, HIRANANDANI ESTATE	700	50	35000	SS	25000	-10000
193	01/12/2014	PINV/1192	PD/10293	TOUCH SONIC	793, GOWSHALA ROAD	2000	40	80000	SS	25000	-55000
195	02/12/2014	PINV/1194	PD/10293	TOUCH SONIC	793, GOWSHALA ROAD	700	40	28000	SS	25000	-3000
207	11/12/2014	PINV/1206	PD/10102	ARPITH COMPUTERS SERVICES PVT LTD	63 SHANKAR LANE	2000	50	100000	GK	80000	-20000
222	30/12/2014	PINV/1221	PD/10654	STAG ENTERPRISES	RUTU TOWERS, HIRANANDANI ESTATE	2000	20	40000	SS	25000	-15000
223	31/12/2014	PINV/1222	PD/10825	BD SOLUTIONS PVT. LTD	734 JATASHANKAR DOSA ROAD	2000	50	100000	GK	80000	-20000

Inference:

The results show all records where the Purchase amount which exceed the authorised transaction limit and by what amount.

Additional Tests:

- Verify whether all purchases are accounted are within the financial year.
- Identify if there are issues with each of the fields by identifying whether all invoices are in sequence.
- Identify whether there are any duplicate Purchases.
- Identify whether same vendor has multiple addresses.
- Summarise sales as per vendor name and vendor address and compare the two o check whether there is difference between these and identify the reasons.
- Re-compute purchases and verify whether these are entered correctly based on unit price and quantity.

Exercise 4.28: Case study of Sales frauds **New**

A sale is a critical area which has to be verified by auditors and has high potential of fraud. Sample data with exercises to test fraud are given here.

Example 1:-

Verify whether all sales invoices issued are in serial order (sequence) as per invoice number.

Files to use:

1. Sales file

Test to Perform:

Step 1: In the **Sales** file, create a blank column to the right to the **Invoice Number** column. Then, select the **Invoice Number** column (it is suggested that you create a copy of this column first), click on the **Data** tab and select **Text to Columns**. In the resulting dialog box, click **Next**. In the next step under "**Delimiters**" select the check box beside "**Other:**" and enter **"/**" in the text box beside it. Click next to preview the results and then click **Finish.** Name this new column **InvNo**

Step 2: Create a blank column beside **InvNo**, type the first number in the sales invoice sequence (**1001**) then click Enter and type the next number in the series (**1002**) in the next row. Use Excel's **Auto-fill** function to fill the series up to the last record in the file. Name this column **Series**

Step 3: Create a blank column beside **Series** and use the following Excel formula: =E2-D2. Name this column **Variances**

Step 4: Select Data Tab and select Filter option.

Step 5: In the **Variances** column, click on the drop down box on the bottom-right of the cell, select the **Number Filters** option and select **Does Not Equal**. Type "**0**" in the dialog box that appears and click OK.

	A	B	C	D	E	F	G	H
1	Date	Invoice Number	Invoice Number	InvNo	Series	Variances	Name	Address
12	15-04-2014	SINV/1010	SINV/1010	1010	1011	1	SCREEN NEEDS INDIA PVT LTD	666 PANDIT DIN DAYAL UPADHYAY MARG
28	27-04-2014	SINV/1026	SINV/1026	1026	1027	1	ISOLUTIONS PVT LTD	1556 19TH FLOOR DAJI PETH
29	27-04-2014	SINV/1026	SINV/1026	1026	1028	2	COLOUR DATA SYSTEMS LIMITED	141/1TUKARAM JAVJI ROAD
30	27-04-2014	SINV/1026	SINV/1026	1026	1029	3	AUTHENTICALLY YOU DESIGNERS	PLOT NO 2 S NO 792/1/2
31	27-04-2014	SINV/1026	SINV/1026	1026	1030	4	WARMTH SYSTEMS LTD	48 LOKHANDWALA ROAD
83	19-06-2014				1082	1082	MD CONSUMABLES	3515 KHODAL NAGAR
142	24-08-2014	SINV/1140	SINV/1140	1140	1141	1	REMIX SOLUTIONS (P) LTD	305 DARYA SARANG KANHOJI ANGRE MARG
143	27-08-2014	SINV/1140	SINV/1140	1140	1142	2	TRANSCENDENCE CORP	54 3RD FLOOR JAIL ROAD
144	27-08-2014	SINV/1140	SINV/1140	1140	1143	3	SMART CARD	634518/654 BHANUSHALI LANE
145	27-08-2014	SINV/1140	SINV/1140	1140	1144	4	SMART CARD	634518/654 BHANUSHALI LANE
152	02-09-2014				1151	1151	SCREEN NEEDS INDIA PVT LTD	666 PANDIT DIN DAYAL UPADHYAY MARG
221	19-11-2014				1220	1220	WESTLAND CONNECTION	134 BHAWANI NAGAR
267	05-01-2015				1266	1266	BEST PRINTS	150 1ST FLOOR L S ROAD
290	28-01-2015				1289	1289	WESTLAND CONNECTION	134 BHAWANI NAGAR
336	23-03-2015				1335	1335	REMIX SOLUTIONS (P) LTD	305 DARYA SARANG KANHOJI ANGRE MARG

Inference:

The results show all records where there is a discrepancy in the series of invoice numbers.

Example 2:-

Re-compute Net Amount and Commission to find variances

Files to use:

1. Sales file

Test to Perform:

Step 1: In the **Sales** file, in a blank column, re-compute the difference between Gross amount and Discount to get Net Amount by using the following Excel formula: =I2-J2. Name this column **Net Amount re-computed**.

Step 2: In a blank column, compute the difference between **Net Amount** and **Net Amount re-computed** by using the following Excel formula: =K2-O2, Name this column **Difference.**

Step 3: In the **Difference** column click on the drop down box on the bottom-right of the cell, select the **Number Filters** option and select **Does Not Equal**. Type "**0**" in the dialog box that appears and click OK.

I	J	K	L	M	N	O	P
Gross Amount	Discount	Net Amount	Employee ID	Commission rate	Commission paid	Net Amount re-computed	Difference
10800	540	10200	MM	2.5	256.5	10260	-60
3750	0	3500	RA	1	37.5	3750	-250
12500	1500	10999	RA	1	110	11000	-1
12500	0	12499	RA	2.5	312.5	12500	-1
12000	0	21000	MM	1	120	12000	9000
36000	1800	43000	MM	2.5	855	34200	8800
10800	1080	9700	MM	5	486	9720	-20
36000	4320	31600	SF	1	316.8	31680	-80

Inference:

The results show all records where there is a variance in net amount entered and re-computed net amount.

Step 4: In the Sales file, in a blank column, re-compute Commission by using the following Excel formula:

=O2*(M2/100). Name this column Commission re-computed.

Step 5: In a blank column, compute the difference between **Commission** and **Commission re-computed** by using the following Excel formula: =Q2-N2. Name this column **Diff Commission.**

Step 6: In the **Diff Commission** column click on the drop down box on the bottom-right of the cell, select the **Number Filters** option and select **Does Not Equal**. Type "**0**" in the dialog box that appears and click OK.

	I	J	K	L	M	N	O	P	Q	R
1	Gross Amount	Discount	Net Amount	Employee ID	Commission rate	Commission paid	Net Amount re-computed	Difference	Commission re-computed	Diff_Commission
2	10800	540	10200	MM	2.5	255	10260	-60	256.5	1.5
9	3750	0	3500	RA	1	35	3750	-250	37.5	2.5
108	12500	1500	10999	RA	1	109.99	11000	-1	110	0.01
183	12500	0	12499	RA	2.5	312.475	12500	-1	312.5	0.025
185	12000	0	21000	MM	1	210	12000	9000	120	-90
254	36000	1800	43000	MM	2.5	1075	34200	8800	855	-220
324	10800	1080	9700	MM	5	485	9720	-20	486	1
325	36000	4320	31600	SF	1	316	31680	-80	316.8	0.8

Inference:

The results show all records where there is a variance in commission entered and re-computed based on re-computed net amount.

Example 3:-

Identify if there are any transactions made on Sunday.

Files to use:

1. Sales file

Test to Perform:

Step 1: In the **Sales** file, in a blank column, use the following Excel formula:

=TEXT (A2, "dddd")

Name this column **Day of Week**

Step 2: Click on the drop down box on the bottom-right of the "**Day of Week"** cell. Click on the "**Select All**" check box to de-select all the options. Then, select only the "**Sunday"** option. Click OK.

	A	B	C	D	E	F	G	H	I
1	Date	Day of Week	Invoice Number	Invoice Number	InvNo	Series	Variances	Name	Address
26	27-04-2014	Sunday	SINV/1025	SINV/1025	1025	1025	0	WARMTH SYSTEMS LTD	48 LOKHANDWALA ROAD
27	27-04-2014	Sunday	SINV/1026	SINV/1026	1026	1026	0	MD CONSUMABLES	3515 KHODAL NAGAR
28	27-04-2014	Sunday	SINV/1026	SINV/1026	1026	1027	1	ISOLUTIONS PVT LTD	1556 19TH FLOOR DAJI PETH
29	27-04-2014	Sunday	SINV/1026	SINV/1026	1026	1028	2	COLOUR DATA SYSTEMS LIMITED	141/1TUKARAM JAVJI ROAD
30	27-04-2014	Sunday	SINV/1026	SINV/1026	1026	1029	3	AUTHENTICALLY YOU DESIGNERS	PLOT NO 2 S NO 792/1/2
31	27-04-2014	Sunday	SINV/1026	SINV/1026	1026	1030	4	WARMTH SYSTEMS LTD	48 LOKHANDWALA ROAD
120	03-08-2014	Sunday	SINV/1119	SINV/1119	1119	1119	0	COLOUR DATA SYSTEMS LIMITED	141/1TUKARAM JAVJI ROAD
121	03-08-2014	Sunday	SINV/1120	SINV/1120	1120	1120	0	WARMTH SYSTEMS LTD	48 LOKHANDWALA ROAD
137	24-08-2014	Sunday	SINV/1136	SINV/1136	1136	1136	0	MD CONSUMABLES	3515 KHODAL NAGAR
138	24-08-2014	Sunday	SINV/1137	SINV/1137	1137	1137	0	AUTHENTICALLY YOU DESIGNERS	PLOT NO 2 S NO 792/1/2
139	24-08-2014	Sunday	SINV/1138	SINV/1138	1138	1138	0	MD CONSUMABLES	3515 KHODAL NAGAR
140	24-08-2014	Sunday	SINV/1139	SINV/1139	1139	1139	0	WARMTH SYSTEMS LTD	48 LOKHANDWALA ROAD
141	24-08-2014	Sunday	SINV/1140	SINV/1140	1140	1140	0	JUNE ENTERPRISES (INDIA)	19, IIIRD FLOOR VASWANI MARG
142	24-08-2014	Sunday	SINV/1140	SINV/1140	1140	1141	1	REMIX SOLUTIONS (P) LTD	305 DARYA SARANG KANHOJI ANGRE MARG

Inference:

The results show all records where the sale has been made on a Sunday.

Example 4:-

Find transactions which are 3 times the average sale amount to verify documentation and confirm correctness.

Files to use:

1. Sales file

Test to Perform:

Step 1: Compute the average sale amount using the following Excel formula:

=AVERAGE (G2:G351)

Step 2: Multiple the average by 3. (answer: **53786.21**)

Step 3: In the **Net Amount** column click on the drop down box on the bottom-right of the cell, select the **Number Filters** option and select **Greater Than**. Enter the 3 times the average amount (**53786.21)** in the dialog box that appears and click OK.

	A	B	C	D	E	F	G	H	I
1	Date	Invoice Number	Name	Address	Gross Amount	Discount	Net Amount	Employee ID	Commission rate
14	18-04-2014	SINV/1013	JUNE ENTERPRISES (INDIA)	19, IIIRD FLOOR VASWANI MARG	60000	0	60000	AA	2.5
24	24-04-2014	SINV/1023	COLOUR DATA SYSTEMS LIMITED	141/1TUKARAM JAVJI ROAD	75000	5625	69375	RA	1
27	27-04-2014	SINV/1026	MD CONSUMABLES	3515 KHODAL NAGAR	72000	14400	57600	RA	1
39	05-05-2014	SINV/1038	WESTLAND CONNECTION	134 BHAWANI NAGAR	60000	0	60000	AA	1
53	15-05-2014	SINV/1052	WESTLAND CONNECTION	134 BHAWANI NAGAR	72000	5400	66600	RA	1
116	01-08-2014	SINV/1115	ISOLUTIONS PVT LTD	1556 19TH FLOOR DAJI PETH	120000	0	120000	SF	2.5
168	18-09-2014	SINV/1167	JUNE ENTERPRISES (INDIA)	19, IIIRD FLOOR VASWANI MARG	72000	0	72000	MM	1
188	10-10-2014	SINV/1187	WESTLAND CONNECTION	134 BHAWANI NAGAR	120000	6000	114000	SF	1
217	14-11-2014	SINV/1216	MD CONSUMABLES	3515 KHODAL NAGAR	72000	14400	57600	RA	2.5
239	02-12-2014	SINV/1238	JUNE ENTERPRISES (INDIA)	19, IIIRD FLOOR VASWANI MARG	120000	12000	108000	MM	1
244	06-12-2014	SINV/1243	BALANCE FRONT LLC	87 8TH FLORR KRISHNA NIWAS FID ROAD	120000	9000	111000	AA	1
247	11-12-2014	SINV/1246	SCREEN NEEDS INDIA PVT LTD	666 PANDIT DIN DAYAL UPADHYAY MARG	60000	0	60000	SF	2.5
263	29-12-2014	SINV/1262	REMIX SOLUTIONS (P) LTD	305 DARYA SARANG KANHOJI ANGRE MARG	60000	6000	54000	RA	2.5
285	19-01-2015	SINV/1284	MD CONSUMABLES	3515 KHODAL NAGAR	120000	12000	108000	RA	1
337	24-03-2015	SINV/1336	MD CONSUMABLES	3515 KHODAL NAGAR	72000	14400	57600	RA	1

Inference:

The results show all records that are greater than 3 times the average sale amount. These invoices may be reviewed in detail to verify whether these are correct.

Additional Tests:

- Verify whether the transactions are within the financial year.
- Compute sales as per month and identify whether there are any discrepancies.
- Verify whether sales computations are correct.
- Compute the % of discount and verify whether any of these are outside the regular pattern.
- Summarise sales as per name to identify customers with high value of sales.
- Verify invoice numbers and identify whether there are any discrepancies in invoice numbers.

Summarise transactions as entered as per employee id and identify any issues of concern.

A. Exercise on Excel as an Audit Tool Part-1

Exercise 4.1: Statistics Case Study

Output

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T
1	*INV_NO*		*INV_DATE*		*SALESREP_NO*		*CUSTNO*		*PROD_CODE*		*UNIT_PRICE*		*QTY*	*SALES_BEF_TAX*			*SALES_TAX*		*SALES_PLUS_TAX*	
2																				
3	Mean	1000450	Mean	38915.3	Mean	114.9444	Mean	46343.93	Mean	4.871111	Mean	14.48723	Mean	562.1078	Mean	12690.74226	Mean	1269.0149	Mean	13959.204
4	Standard E	8.666698	Standard E	3.139259	Standard	0.26205	Standard	949.79436	Standard E	0.017403	Standard E	3.021188	Standard	50.49584	Standard E	5859.117597	Standard E	585.86679	Standard	6444.9856
5	Median	1000451	Median	38916	Median	115	Median	40712	Median	5	Median	5.99	Median	178.5	Median	1230.945	Median	123.095	Median	1334.275
6	Mode	1000320	Mode	39017	Mode	126	Mode	92431	Mode	5	Mode	5.99	Mode	100	Mode	599	Mode	59.9	Mode	658.9
7	Standard D	260.0009	Standard D	94.17777	Standard	7.861511	Standard	28493.831	Standard D	0.522091	Standard D	90.63563	Standard	1514.875	Standard D	175773.5279	Standard D	17576.004	Standard	193349.57
8	Sample Va	67600.49	Sample Va	8869.453	Sample V	61.80336	Sample V	811898402	Sample Va	0.272579	Sample Va	8214.818	Sample V	2294847	Sample Va	30896333115	Sample Va	308915909	Sample V	3.738E+10
9	Kurtosis	-1.20026	Kurtosis	-1.022309	Kurtosis	-1.191049	Kurtosis	-1.088143	Kurtosis	18.66911	Kurtosis	281.0113	Kurtosis	71.44487	Kurtosis	445.70658	Kurtosis	445.68948	Kurtosis	445.70493
10	Skewness	-0.00013	Skewness	-0.067053	Skewness	-0.046683	Skewness	0.5814884	Skewness	-4.14654	Skewness	16.60057	Skewnes	7.713885	Skewness	21.04415478	Skewness	21.043836	Skewness	21.044123
11	Range	899	Range	357	Range	27	Range	84211	Range	5	Range	1553.98	Range	17500	Range	3899972.92	Range	389934.29	Range	4289907.2
12	Minimum	1000001	Minimum	38723	Minimum	101	Minimum	10000	Minimum	1	Minimum	5.99	Minimum	0	Minimum	-47.92	Minimum	-4.79	Minimum	-52.71
13	Maximum	1000900	Maximum	39080	Maximum	128	Maximum	94211	Maximum	6	Maximum	1559.97	Maximun	17500	Maximum	3899925	Maximum	389929.5	Maximum	4289854.5
14	Sum	9E+08	Sum	35023768	Sum	103450	Sum	41709537	Sum	4384	Sum	13038.51	Sum	505897	Sum	11421668.03	Sum	1142113.4	Sum	12563283
15	Count	900	Count	900	Count	900	Count	900	Count	900	Count	900	Count	900	Count	900	Count	900	Count	900
16	Confidenc	17.00932	Confidence	6.16113	Confidenc	0.514302	Confidenc	1864.0724	Confidenc	0.034155	Confidenc	5.929402	Confiden	99.10345	Confidence	11499.14093	Confidence	1149.8258	Confidenc	12648.969

Exercise 4.2: Stratification Case Study

Output

	A	B	C	D	E	F	G
1	Sr. No.	Values	Strata	Strata	Range	Count	Total
2	1	1,000	1	1	Upto 1000	1	1,000
3	2	1,001	2	2	Upto 2000	2	2,501
4	3	1,500	2	3	Above 2000	3	8,501
5	4	2,001	3			6	12,002
6	5	3,000	3				
7	6	3,500	3				
8		12,002					

Exercise 4.3: Duplicate and Gap Detection Case Study

Output

	A	B	C	D	E	F	G	H	I	J	K	L
1	INV_N	INV_DA	SALES	CUSTN	PRO	UNIT	QTY	SALES_I	SALES	SALES	GAPS	DUP's
111	1000109	14-02-06	122	20056	05	5.99	490	2935.10	293.51	3228.61	0	Dup
121	1000118	30-01-06	107	40205	05	5.99	171	1024.29	102.43	1126.72	0	Dup
141	1000140	13-06-06	110	92700	05	5.99	900	5391.00	539.10	5930.10	0	Dup
322	1000320	26-05-06	102	30228	05	5.99	30	179.70	17.97	197.67	0	Dup

Exercise 4.4: Sorting Case Study

Output

	A	B	C	D	E	F	G	H	I	J
1	INV_N	INV_DA	SALES	CUSTN	PRO	UNI	QT	SALES	SAL	SALES
2	1000677	29-12-06	119	92241	05	5.99	240	1437.60	143.76	1581.36
3	1000814	29-12-06	120	62101	05	5.99	132	790.68	79.07	869.75
4	1000821	29-12-06	124	20065	05	5.99	541	3240.59	324.06	3564.65
5	1000839	29-12-06	125	11805	05	5.99	333	1994.67	199.47	2194.14
6	1000455	25-12-06	123	21464	05	5.99	167	1000.33	100.03	1100.36
7	1000458	25-12-06	128	20914	05	5.99	1000	5990.00	599.00	6589.00
8	1000516	25-12-06	126	21163	05	5.99	195	1168.05	116.81	1284.86
9	1000582	25-12-06	115	92323	05	5.99	750	4492.50	449.25	4941.75
10	1000617	25-12-06	101	21341	05	5.99	168	1006.32	100.63	1106.95
11	1000627	25-12-06	113	60300	05	5.99	130	778.70	77.87	856.57
12	1000708	25-12-06	110	92431	05	5.99	291	1743.09	174.31	1917.40
13	1000771	25-12-06	118	60104	05	5.99	493	2953.07	295.31	3248.38

Exercise 4.5: Aging Analysis Case Study

Output

	A	B	C	D
1	Aging Analysis Report			
2	Aging Report as on 31-Dec-06			
3	Sr. No.	Aging Range	Count	Amount
4	1	Upto 30 Days	0	-
5	2	Upto 60 Days	0	-
6	3	Upto 180 Days	0	-
7	4	Above 180 Days	0	-

B. Exercise on Excel as an Audit Tool Part-2

Exercise 4.6: Importing Data from MS Access in MS Excel

Output

	A	B	C	D	E	F	G
1	COUNTRY	CUSTOMER_N	INVOICE_NU	DATE	REP	PROD_CODE	UNIT_PRICE
2	U.S.A.	SIMPSON, MIROSLAW	1000867	10-08-01	102	05	5.99
3	FRANCE	BRANDSTACK, PEKKA	1000018	26-07-01	111	03	35.1
4	CHINA	PROYNOV, DENISLAV	1000079	12-04-01	112	05	5.99
5	COSTA RICA	KWONG, KWAI HEUNG	1000865	05-11-01	122	05	5.99
6	U.S.A.	SIMPSON, MIROSLAW	1000498	26-10-01	105	05	5.99
7	MEXICO	TREUTEN, KATHERIN	1000211	07-05-01	120	04	105.69
8	COSTA RICA	KWONG, KWAI HEUNG	1000248	16-05-01	122	05	5.99
9	MEXICO	TREUTEN, KATHERIN	1000368	19-02-01	119	05	5.99
10	BELGIUM	LAMMERANT, BENOIT	1000718	09-11-01	103	05	5.99
11	MEXICO	TREUTEN, KATHERIN	1000227	16-03-01	119	05	5.99
12	BARBADOS	SANCHEZ, LEONARDO	1000298	06-03-01	125	05	5.99
13	FINLAND	BRANDSTACK, PEKKA	1000769	05-11-01	108	05	5.99
14	CANADA	PROYNOV, DENISLAV	1000327	24-04-01	123	05	5.99
15	CHINA	KWONG, KWAI HEUNG	1000879	14-09-01	113	05	5.99
16	DENMARK	CHRISTENSEN, VITA	1000329	10-04-01	107	05	5.99

Exercise 4.7: Exporting Data from MS Excel to Text File format.

Output

Book1 - Notepad

File Edit Format View Help

```
COUNTRY CUSTOMER_N       INVOICE_NU      DATE     REP      PROD_CODE       UNIT_PRICE
U.S.A.  "SIMPSON, MIROSLAW"      1000867 10-08-01         102      05      5.99    700
FRANCE  "BRANDSTACK, PEKKA"      1000018 26-07-01         111      03      35.1    561
CHINA   "PROYNOV, DENISLAV"      1000079 12-04-01         112      05      5.99    4703
COSTA RICA      "KWONG, KWAI HEUNG"      1000865 05-11-01         122      05      5.99
U.S.A.  "SIMPSON, MIROSLAW"      1000498 26-10-01         105      05      5.99    600
MEXICO  "TREUTEN, KATHERIN"      1000211 07-05-01         120      04      105.69  97
COSTA RICA      "KWONG, KWAI HEUNG"      1000248 16-05-01         122      05      5.99
MEXICO  "TREUTEN, KATHERIN"      1000368 19-02-01         119      05      5.99    95
BELGIUM "LAMMERANT, BENOIT"      1000718 09-11-01         103      05      5.99    107
MEXICO  "TREUTEN, KATHERIN"      1000227 16-03-01         119      05      5.99    111
BARBADOS        "SANCHEZ, LEONARDO"      1000298 06-03-01         125      05      5.99
FINLAND "BRANDSTACK, PEKKA"      1000769 05-11-01         108      05      5.99    122
CANADA  "PROYNOV, DENISLAV"      1000327 24-04-01         123      05      5.99    1582
CHINA   "KWONG, KWAI HEUNG"      1000879 14-09-01         113      05      5.99    1175
DENMARK "CHRISTENSEN, VITA"      1000329 10-04-01         107      05      5.99    30
U.S.A.  "SIMPSON, MIROSLAW"      1000413 30-03-01         102      04      105.69  400
U.S.A.  "VILAT, PHETSAMONE"      1000535 15-10-01         104      05      5.99    1431
FINLAND "BRANDSTACK, PEKKA"      1000221 06-04-01         108      05      5.99    34
U.S.A.  "SIMPSON, MIROSLAW"      1000362 10-04-01         102      05      5.99    25
```

Exercise 4.8: Benford's Law Case Study

Output

Digits	Benford	Count	Count%	Dif%
1	0.30103	35	0.19337017	0.1076598
2	0.1760913	29	0.16022099	0.0158703
3	0.1249387	22	0.12154696	0.0033918
4	0.09691	26	0.14364641	-0.046736
5	0.0791812	22	0.12154696	-0.042366
6	0.0669468	8	0.0441989	0.0227479
7	0.0579919	18	0.09944751	-0.041456
8	0.0511525	13	0.0718232	-0.020671
9	0.0457575	8	0.0441989	0.0015586
		181	1	

Exercise 4.9: Summarization Case Study

Output

Here students are requested to create a Pivot Table on the Sales sheet in Exercise4.9_Summarization.xlsx file.

Step 1: In the Exercise4.9_Summarization.xlsx file select sheet “Sales”, select all the data in the worksheet, then click on the **Insert** tab and select **Pivot Table**. In the resulting dialog box, click OK.

Step 2: Drag “**Name**” from the PivotTable Field List dialog box and drop it under **Row Labels**. Drag **“Net Amount”** and drop it under **Values**.

Row Labels	Sum of Net Amount
AUTHENTICALLY YOU DESIGNERS	227596.875
BALANCE FRONT LLC	303770
BEST PRINTS	245690.625
COLOUR DATA SYSTEMS LIMITED	330066.25
GURUPRASAD	223275.625
ISOLUTIONS PVT LTD	287478.75
JUNE ENTERPRISES (INDIA)	764644.375
MK CONSUMABLES	1475523.625
REMIX SOLUTIONS (P) LTD	718012.125
SCREEN NEEDS INDIA PVT LTD	313767.5
SMART CARD	292898.75
TRANSCENDENCE CORP	156437.75
WARMTH SYSTEMS LTD	312768.75
WESTLAND CONNECTION	623126.625
Grand Total	**6275057.625**

Inference:

- The results show the total sales for each customer.
- You can sort the above as per name or amount in ascending or descending order. For example sorting (descending) by Sum of Net Amount will show (MK CONSUMABLES) has the highest sales.

Exercise 4.10: Data Extraction Case Study

Output

Here students are requested to create a Pivot Table on the Sales sheet in Exercise4.9_Summarization.xlsx file and extract transactions of customer with highest sales.

Step 1: In the Exercise4.9_Summarization.xlsx file select sheet “Sales”, select all the data in the worksheet, then click on the **Insert** tab and select **Pivot Table**. In the resulting dialog box, click OK.

Step 2: Drag “**Name**” from the PivotTable Field List dialog box and drop it under **Row Labels**. Drag “**Net Amount**” and drop it under **Values.** (as given in Exercise 4.9)

Step 3: Sort on “**Sum of Net amount**” in descending order select cell under Sum of Net Amount in Pivot Table and Go to > Data tab > Sort & Filter section > select Z to A to get customer with highest total sales on top of the row.

Step 4: Double click the customer name with the highest total amount (MK CONSUMABLES). This will extract the sales of this customer and display as below the list of sales of this customer in a new sheet.

Date	Invoice Number	Name	Address	Gross Amount	Discount	Net Amount	Employee ID	Commission rate	Commission paid
03-04-14	SINV/1005	MK CONSUMABLES	1510 Shivaji Nagar	6250	1250	5000	MM	1	50
12-04-14	SINV/1008	MK CONSUMABLES	1510 Shivaji Nagar	3750	0	3500	RA	1	35
17-04-14	SINV/1012	MK CONSUMABLES	1510 Shivaji Nagar	12500	0	12500	SF	2.5	312.5
27-04-14	SINV/1026	MK CONSUMABLES	1510 Shivaji Nagar	72000	14400	57600	RA	1	576
30-04-14	SINV/1032	MK CONSUMABLES	1510 Shivaji Nagar	30000	3600	26400	RK	5	1320
30-04-14	SINV/1033	MK CONSUMABLES	1510 Shivaji Nagar	10800	810	9990	RA	2.5	249.75
03-05-14	SINV/1037	MK CONSUMABLES	1510 Shivaji Nagar	11250	0	11250	MM	1	112.5
10-05-14	SINV/1042	MK CONSUMABLES	1510 Shivaji Nagar	10000	1000	9000	RK	2.5	225
14-05-14	SINV/1049	MK CONSUMABLES	1510 Shivaji Nagar	10800	810	9990	MM	5	499.5
14-05-14	SINV/1050	MK CONSUMABLES	1510 Shivaji Nagar	15000	0	15000	RA	2.5	375
26-05-14	SINV/1058	MK CONSUMABLES	1510 Shivaji Nagar	15000	1500	13500	MM	1	135
29-05-14	SINV/1062	MK CONSUMABLES	1510 Shivaji Nagar	10000	500	9500	MM	1	95
03-06-14	SINV/1067	MK CONSUMABLES	1510 Shivaji Nagar	48000	2400	45600	RK	2.5	1140
04-06-14	SINV/1069	MK CONSUMABLES	1510 Shivaji Nagar	18750	1875	16875	MM	2.5	421.875
06-06-14	SINV/1071	MK CONSUMABLES	1510 Shivaji Nagar	16800	0	16800	MM	5	840

Inference:

The results show the extract of all transactions made by the customer (MK CONSUMABLES) during the financial year.

Exercise 4.11: Consolidation of Data Case Study

Output

Here students are requested to find the sum of expenses of April, May and June as per head of account to prepare total expenses of the quarter.

Step 1: Create a blank worksheet, click on the Data tab and select the Consolidate function.

Step 2: In the dialog box, click on the formula box beside Browse (), select the Exp_April file and select all the records in column B and column C (including the column headings). Now click on the formula box again to return to the dialog box (you should have the formula Exp_April! $BA$1:$C$30) in the box under Reference: Now, click Add in the dialog box to add this reference to the box under All references.

Repeat this process for the **Exp_May** file (**Exp_May! $B$1:$C$30**) and **Exp_June** file (**Exp_June! $B$1:$C$30**)

Step 3: Tick the check box beside **Left column**. Click OK.

	A	B
1	**Head**	
2	Washing allowance/Charges	1895
3	Conveyance allowance to Award Staff	19236
4	Rent Paid for Office Premises	171858
5	Rent Paid for Other Premises	49276
6	Other Taxes	17183
7	Lighting	56536
8	Generator Expenses (Diesel etc)	127931
9	Printing stationery/ Sale Proceeds of old records	43023
10	Postage	1297
11	Courier Charges	888
12	Telephones	2532
13	Amount Paid for leased lines/ISDN conections	3159
14	Repairs to Furniture fixtures Other than Cars jeeps	42647
15	Travelling Expenses	31502
16	Travelling Expenses - Clerks	9836

Inference:

The results show a consolidated, quarterly view of all expenses as per head of account.

Exercise 4.12: Compute 7th of next month

Output

Here students are requested to use formula =EOMONTH (start_date, months)
The formula =EOMONTH (A7, 0) with "0" as parameter helps compute end of Current Month [first picture]. Adding 7 after the end of this formula helps jump the resulting date 7 days ahead [second picture].

	A	B	C
1			
2	**Invoice Date**	**End Of Current Month**	**7th Of Next Month**
3	15-Jun-14	30-Jun-14	
4	28-Jun-14	30-Jun-14	
5	12-Sep-14	30-Sep-14	
6	1-Jan-15	31-Jan-15	
7	1-Sep-15	=EOMONTH(A7,0)	

	A	B	C
1			
2	**Invoice Date**	**End Of Current Month**	**7th Of Next Month**
3	15-Jun-14	30-Jun-14	7-Jul-14
4	28-Jun-14	30-Jun-14	7-Jul-14
5	12-Sep-14	30-Sep-14	7-Oct-14
6	1-Jan-15	31-Jan-15	7-Feb-15
7	1-Sep-15	30-Sep-15	=EOMONTH(B7,0)+7

Exercise 4.13: Compute 90 days vs. 3.0 months from Invoice Date

Output

Here students are requested to use formula =EDATE (start_date, months)
Adding "90" to the Invoice Date will compute due dates based on days. The resulting due date may be different from the due date based on 3.0 months calculation as shown in the second picture.

	A	B	C
1	Invoice Date	90 Days from Invoice Date	3 Months from Invoice Date
2	15-Jun-14	13-Sep-14	
3	28-Jun-14	26-Sep-14	
4	12-Sep-14	11-Dec-14	
5	1-Jan-15	1-Apr-15	
6	1-Sep-15	=A6+90	

	A	B	C
1	Invoice Date	90 Days from Invoice Date	3 Months from Invoice Date
2	15-Jun-14	13-Sep-14	15-Sep-14
3	28-Jun-14	26-Sep-14	28-Sep-14
4	12-Sep-14	11-Dec-14	12-Dec-14
5	1-Jan-15	1-Apr-15	1-Apr-15
6	1-Sep-15	30-Nov-15	=EDATE(A6,3)

Exercise 4.14: Compute Days from given list of Dates. E.g. Sunday, Monday etc.

Output

Here students are requested to use formula ==TEXT (value, format_text)

	A	B	C	D
1	Invoice Date	Day	DD/MM/YYYY Format	
2	15-Jun-14	Sunday		
3	28-Jun-14	Saturday		
4	12-Sep-14	Friday		
5	1-Jan-15	Thursday		
6	1-Sep-15	=TEXT(A6,"dddd")		

	A	B	C
1	Invoice Date	Day	DD/MM/YYYY Format
2	15-Jun-14	Sunday	15/06/2014
3	28-Jun-14	Saturday	28/06/2014
4	12-Sep-14	Friday	12/09/2014
5	1-Jan-15	Thursday	01/01/2015
6	1-Sep-15	Tuesday	=TEXT(A6,"dd/mm/yyyy")

Dd	15
mmmm	June
Mmm	Jun
Mm	6
Yyyy	2011
Yyy	2011
Yy	11
dd-mm-yyyy	15-07-11

Exercise 4.15: Cleaning dates from ERP downloaded "DD.MM.YYYY" format in to Excel acceptable "MM/DD/YYYY" format

Output

Pre-requisite step before applying date-based Sorting, Filtering and applying Date formulas such as =EDATE (), EOMONTH (), TEXT () etc.

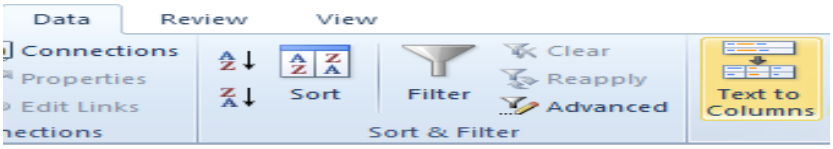
Applying date based formulas on dates stored in DD.MM.YYYY format will result in errors as Excel reads date in MM/DD/YYYY format. Sort, Filter, Pivot Table and other such techniques will not work correctly unless the date is corrected as per Excel Standards i.e. MM/DD/YYYY format.

	A	B
1	Invoice Date	Date Formula - NA
2	15.06.2014	#VALUE!
3	28.06.2014	#VALUE!
4	12.09.2014	#VALUE!
5	01.01.2015	#VALUE!
6	01.09.2015	=EOMONTH(A6,0)

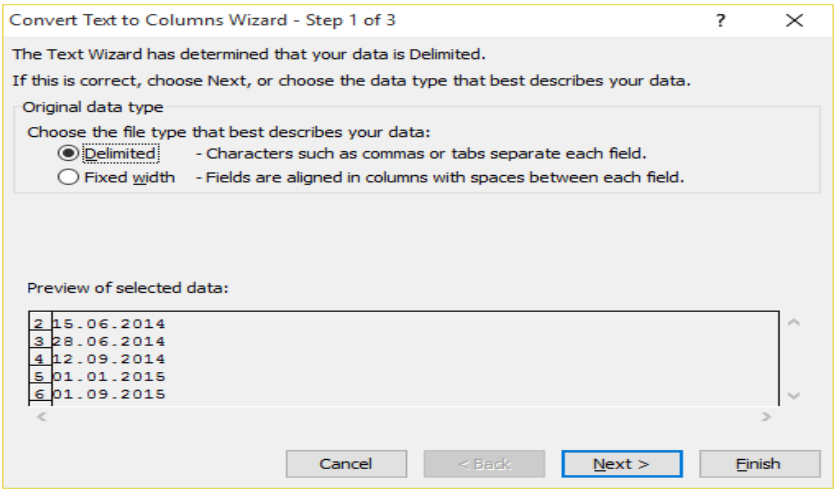
Step 1: Select affected dates

	A	B
1	Invoice Date	Date Formula - NA
2	15.06.2014	#VALUE!
3	28.06.2014	#VALUE!
4	12.09.2014	#VALUE!
5	01.01.2015	#VALUE!
6	01.09.2015	#VALUE!

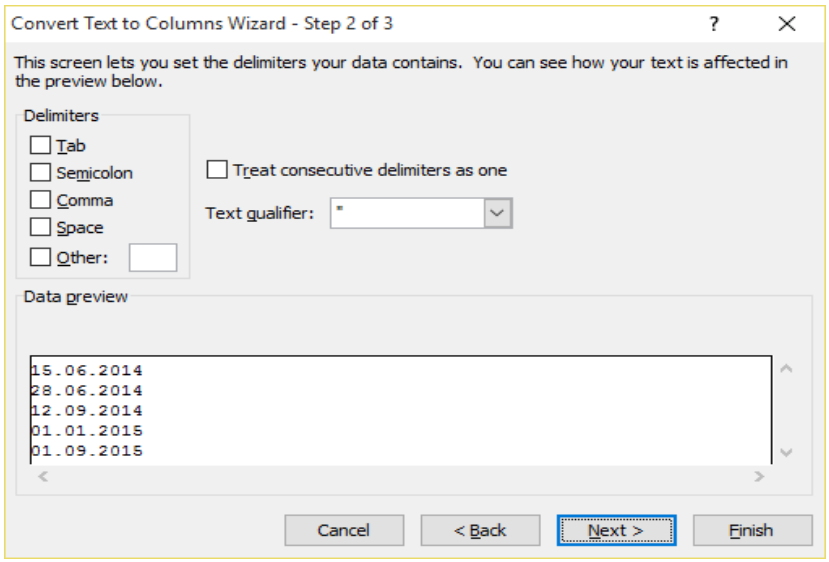
Step 2: Select Data Tab->Text to Columns



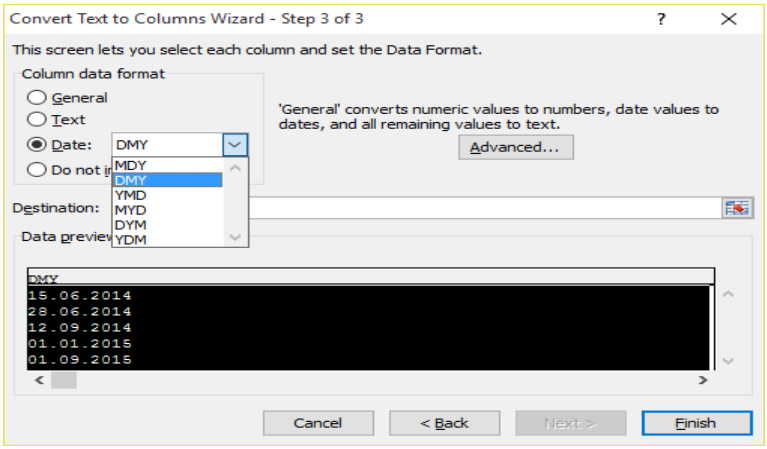
Step 3: Text to Columns (Step 1 of 3) Delimited



Step 4: TEXT TO COLUMNS (Step 2 of 3) -> Turn-off all checkboxes [e.g. Tab, Comma etc.



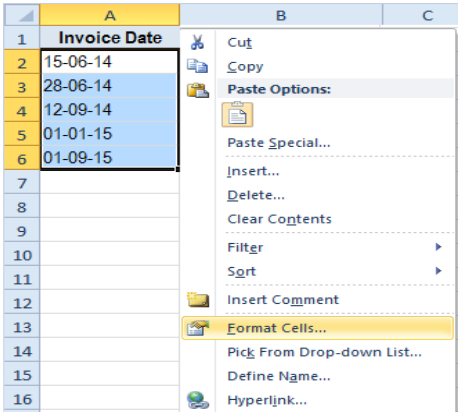
Step 5: TEXT TO COLUMNS (Step 3 of 3) -> “Date” drop-down list -> DMY -> “Finish” button

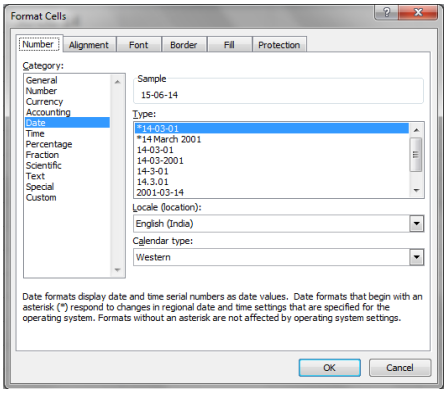


Step 6: Result: Internally, all dates turn into MM/DD/YYYY [refer cell A6]. Although, the skin (presentation) can be modified to DD-MMM-YY as shown in the subsequent step.

	A	B
1	**Invoice Date**	**Date Formula - NA**
2	15-06-14	30-06-14
3	28-06-14	30-06-14
4	12-09-14	30-09-14
5	01-01-15	31-01-15
6	01-09-15	30-09-15

Step 7: Select cells -> Right-click -> "Format Cells" -> "Date" option -> Choose appropriate format for display-presentation of dates

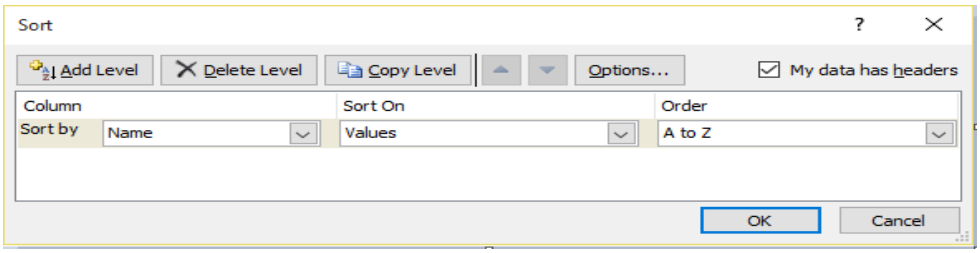




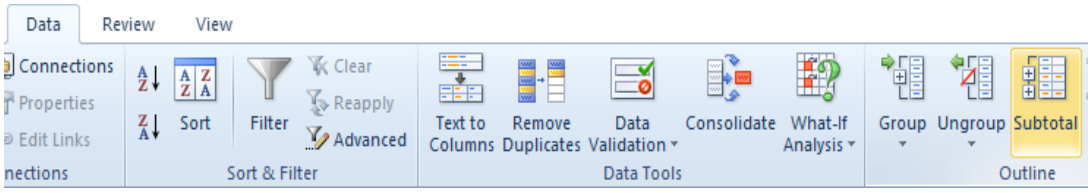
Exercise 4.16: Adding Subtotal at the end of every Category of item

Output

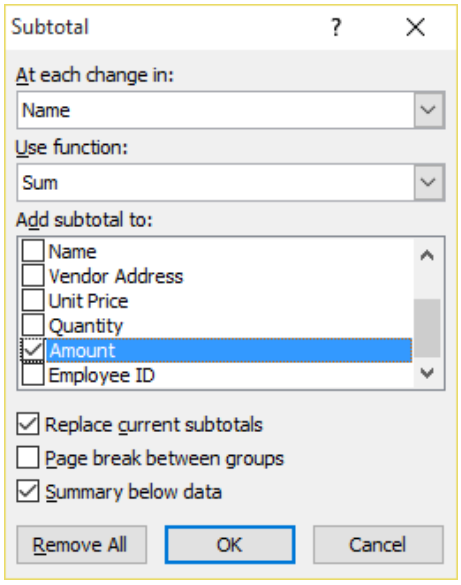
Step 1: Select the data go to > Data tab > Sort & Filter section > select the Sort option. In the dialogue box sort the Data as per the Column (e.g. Name) based on which the Subtotal is needed.



Step 2: Select the entire data > go to Data tab > under Outline section > Select Subtotal.



Step 3: “At each change in:” – Name | “Use function:” – Sum | “Add Subtotal to:” – Amount, and click ok.



Step 4: The Subtotal adds an extra row with Subtotals at the end of every “Name”, The data will automatically be grouped according to the name of the vendor.

	A	B	C	D	E	F	G	H	I
1	Date	Invoice Number	Vendor ID	Name	Vendor Address	Unit Price	Quantity	Amount	Employee ID
2	01-12-14	PINV/1192	PD/10293	TOUCH SONIC	793, GOWSHALA ROAD	2000	40	80000	SS
3				**TOUCH SONIC Total**				80000	
4	01-12-14	PINV/1193	PD/11147	M KUMAR	SCHEME NO 6, NANDA PATKAR ROAD	500	20	10000	SS
5				**M KUMAR Total**				10000	
6	02-12-14	PINV/1194	PD/10293	TOUCH SONIC	793, GOWSHALA ROAD	700	40	28000	SS
7				**TOUCH SONIC Total**				28000	
8	03-12-14	PINV/1195	PD/10654	STAG ENTERPRISES	RUTU TOWERS, HIRANANDANI ESTATE	700	40	28000	GK
9	03-12-14	PINV/1196	PD/10654	STAG ENTERPRISES	RUTU TOWERS, HIRANANDANI ESTATE	2000	30	60000	VR
10				**STAG ENTERPRISES Total**				88000	
11	04-12-14	PINV/1198	PD/10555	GENIE CONTROL SYSTEMS LTD.	176B VALJI LADHA ROAD	1000	40	40000	GK
12				**GENIE CONTROL SYSTEMS LTD. Total**				40000	
13	04-12-14	PINV/1199	PD/10825	BD SOLUTIONS PVT. LTD	734 JATASHANKAR DOSA ROAD	100	50	5000	DA
14				**BD SOLUTIONS PVT. LTD Total**				5000	
15	05-12-14	PINV/1200	PD/10293	TOUCH SONIC	793, GOWSHALA ROAD	700	50	35000	GK
16				**TOUCH SONIC Total**				35000	

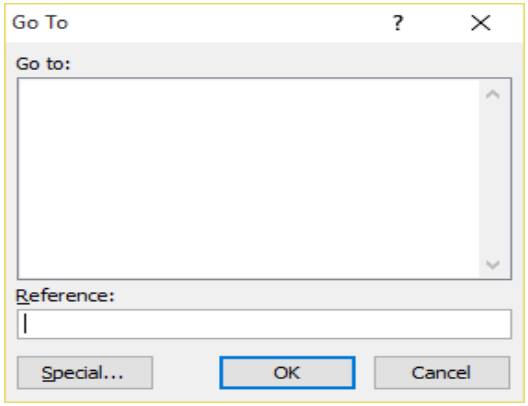
Exercise 4.17: Cleaning Database – Deleting the Errors

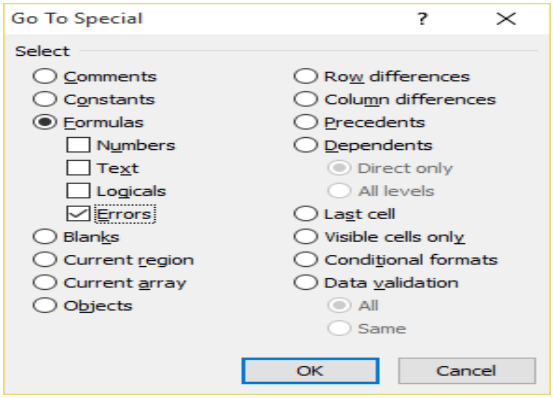
Output

Step 1: Select data -> Press <Ctrl> <G> together to activate “Go To” box.

	A	B	C	D	E	F	G	H	I
1		Q1 07	Q2 07	Q3 07	Q4 07	Q1 08	Q2 08	Q3 08	Q4 08
2	Andhra Pradesh	483	273	486	166	974	509	474	737
3	Arunachal Pradesh	557	315	271	526	462	86	837	930
4	Assam	99	738	634	412	292	459	823	288
5	Bihar	330	959	46	842	#DIV/0!	68	231	688
6	Chhattisgarh	852	106	162	208	660	506	523	140
7	Goa	#DIV/0!	435	636	826	752	891	962	745
8	Gujarat	901	865	104	1	394	410	400	450
9	Haryana	607	218	995	297	38	609	773	245
10	Himachal Pradesh	747	299	559	840	718	35	99	
11	Jammu & Kashmir	456	#DIV/0!	179	281	963	783	364	709
12	Jharkhand	505	512	358	236	#DIV/0!	886	303	862
13	Karnataka	11	856	646	539	286	669	488	919
14	Kerela	690	448	862	850	874	655	189	598
15	Madhya Pradesh	21	182	645	133	464	184	791	503
16	Maharashtra	748	477	751	961	493	828	856	96
17	Manipur	79	196	104	32	491	237	430	253
18	Meghalaya	591	285	647	358	995	956	75	528
19	Mizoram	429	21	291	539	744	#DIV/0!	211	687
20	Nagaland	307	92	330	136	14	608	641	504

Step 2: Choose “Special” button from the “Go To” box -> Choose “Formulas” with “Errors”





Step 3: The above mechanism helps select all the cells with errors simultaneously. Pressing <delete> key will help delete the errors in one go.

	A	B	C	D	E	F	G	H	I
1		Q1 07	Q2 07	Q3 07	Q4 07	Q1 08	Q2 08	Q3 08	Q4 08
2	Andhra Pradesh	483	273	486	166	974	509	474	737
3	Arunachal Pradesh	557	315	271	526	462	86	837	930
4	Assam	99	738	634	412	292	459	823	288
5	Bihar	330	959	46	842	#DIV/0!	68	231	688
6	Chhattisgarh	852	106	162	208	660	506	523	140
7	Goa	#DIV/0!	435	636	826	752	891	962	745
8	Gujarat	901	865	104	1	394	410	400	450
9	Haryana	607	218	995	297	38	609	773	245
10	Himachal Pradesh	747	299	559	840	718	35	99	
11	Jammu & Kashmir	456	#DIV/0!	179	281	963	783	364	709
12	Jharkhand	505	512	358	236	#DIV/0!	886	303	862
13	Karnataka	11	856	646	539	286	669	488	919
14	Kerela	690	448	862	850	874	655	189	598
15	Madhya Pradesh	21	182	645	133	464	184	791	503
16	Maharashtra	748	477	751	961	493	828	856	96
17	Manipur	79	196	104	32	491	237	430	253
18	Meghalaya	591	285	647	358	995	956	75	528
19	Mizoram	429	21	291	539	744	#DIV/0!	211	687
20	Nagaland	307	92	330	136	14	608	641	504

	A	B	C	D	E	F	G	H	I
1		Q1 07	Q2 07	Q3 07	Q4 07	Q1 08	Q2 08	Q3 08	Q4 08
2	Andhra Pradesh	483	273	486	166	974	509	474	737
3	Arunachal Pradesh	557	315	271	526	462	86	837	930
4	Assam	99	738	634	412	292	459	823	288
5	Bihar	330	959	46	842		68	231	688
6	Chhattisgarh	852	106	162	208	660	506	523	140
7	Goa		435	636	826	752	891	962	745
8	Gujarat	901	865	104	1	394	410	400	450
9	Haryana	607	218	995	297	38	609	773	245
10	Himachal Pradesh	747	299	559	840	718	35	99	
11	Jammu & Kashmir	456		179	281	963	783	364	709
12	Jharkhand	505	512	358	236		886	303	862
13	Karnataka	11	856	646	539	286	669	488	919
14	Kerela	690	448	862	850	874	655	189	598
15	Madhya Pradesh	21	182	645	133	464	184	791	503
16	Maharashtra	748	477	751	961	493	828	856	96
17	Manipur	79	196	104	32	491	237	430	253
18	Meghalaya	591	285	647	358	995	956	75	528
19	Mizoram	429	21	291	539	744		211	687
20	Nagaland	307	92	330	136	14	608	641	504

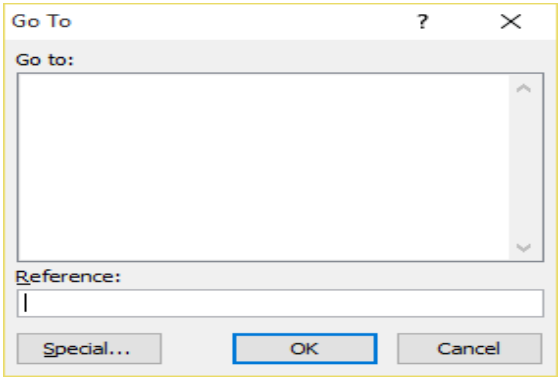
Exercise 4.18: Filling up Blank cells with appropriate date pieces to enable use of Filter & Pivot table

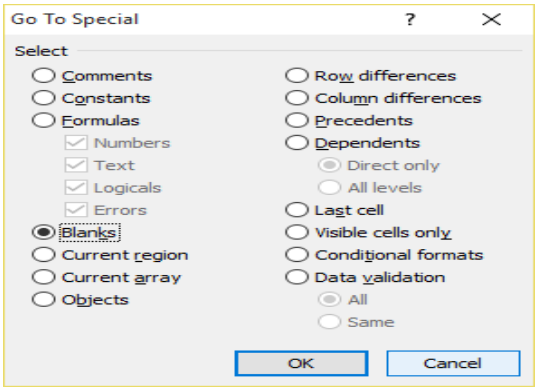
Output

Step 1: Choose affected range of columns/cells

	A	B	C
1	**Vendor Details**	**(Excepts)**	
2			
3	**Supplier Number**	**Supplier Name**	**Transaction Amt. RS.**
4	707256	D.C Power System	125279
5			32090
6			136529
7			45305
8	712157	ATMA Tele Power Limited.	108411
9			171781
10			156918
11	712157	ANZ Tele Power Ltd	74676
12			110210
13			20866
14			48500
15			193199
16	777826	Agile Technologies	111433
17			56903
18			144393

Step 2: Press <Ctrl> <G> together to activate “Go To” box -> Choose “Special” button from the “Go To” box -> Choose “Blanks”





Step 3: Write formula in the first selected cell keeping the "Blank" range selected -> Press <Ctrl> <Enter> together to fill the formulas in the entire region of "Blank" range selected.

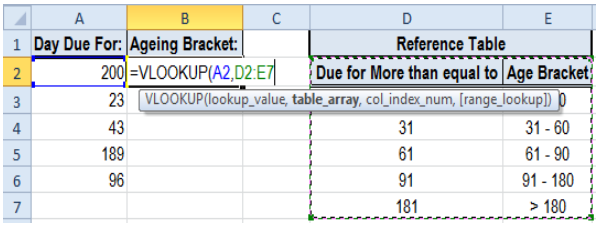
	A	B	C
1	**Vendor Details**	**(Excepts)**	
2			
3	**Supplier Number**	**Supplier Name**	**Transaction Amt. RS.**
4	707256	D.C Power System	125279
5	=A4		32090
6			136529
7			45305
8	712157	ATMA Tele Power Limited.	108411
9			171781
10			156918
11	712157	ANZ Tele Power Ltd	74676
12			110210
13			20866
14			48500
15			193199
16	777826	Agile Technologies	111433
17			56903
18			144393

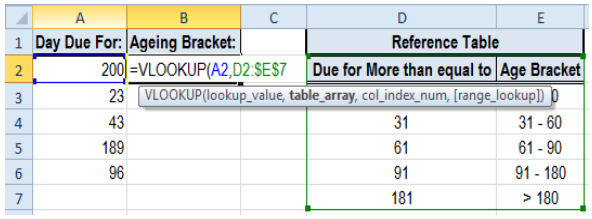
	A	B	C
1	**Vendor Details**	**(Excepts)**	
2			
3	**Supplier Number**	**Supplier Name**	**Transaction Amt. RS.**
4	707256	D.C Power System	125279
5	707256	D.C Power System	32090
6	707256	D.C Power System	136529
7	707256	D.C Power System	45305
8	712157	ATMA Tele Power Limited.	108411
9	712157	ATMA Tele Power Limited.	171781
10	712157	ATMA Tele Power Limited.	156918
11	712157	ANZ Tele Power Ltd	74676
12	712157	ANZ Tele Power Ltd	110210
13	712157	ANZ Tele Power Ltd	20866
14	712157	ANZ Tele Power Ltd	48500
15	712157	ANZ Tele Power Ltd	193199
16	777826	Agile Technologies	111433
17	777826	Agile Technologies	56903
18	777826	Agile Technologies	144393

Exercise 4.19: Debtors Ageing

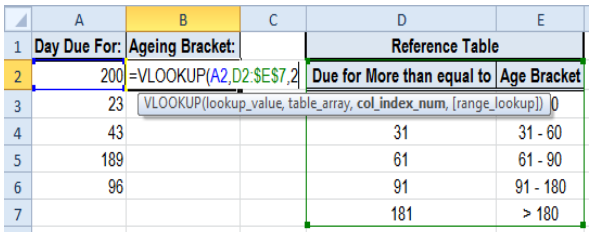
Output

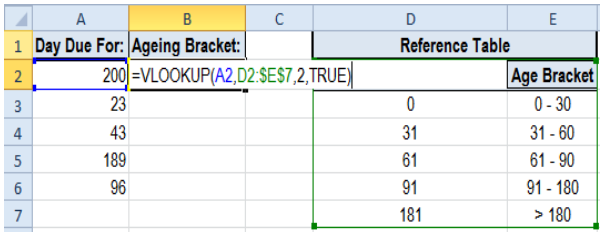
Step 1: Write =VLOOKUP () and choose lookup_value. Then choose table_array i.e. “reference table” on the right as shown, press <F4> to lock the range ($)



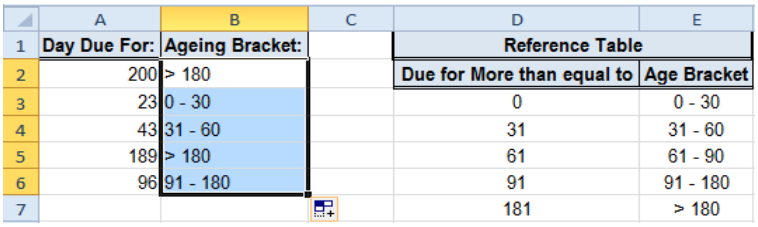


Step 2: Choose col_index_num as 2 since "Age Bracket" values are in the second column of the "Reference table", then choose range_lookup as <True> since the "Reference table" refers to a data in "greater than equal to" format in the first column and is sorted in ascending order.





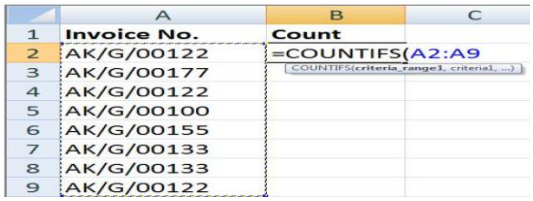
Step 3: Drag the formula so written to subsequent cells downwards to pull the "Ageing Bracket" value based on "Days due for"



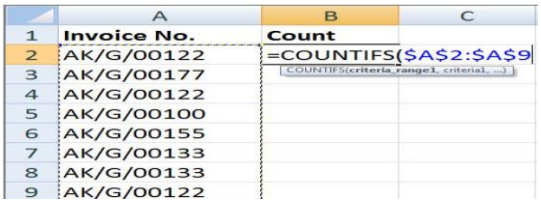
Exercise 4.20: Finding Instances of Duplicates

Output

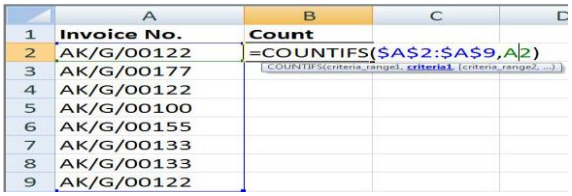
Step 1: Write =COUNTIFS () and choose criteria_range1 as illustrated.



Step 2: Press <F4> to lock the selected range ($)



Step 3: Choose criteria1 as the Invoice No.



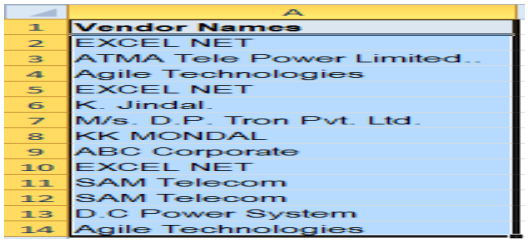
Step 4: Copy the formula and paste it subsequent cells as shown.

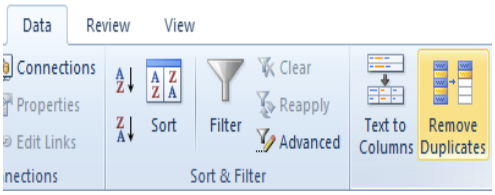
	A	B
1	Invoice No.	Count
2	AK/G/00122	3
3	AK/G/00177	1
4	AK/G/00122	3
5	AK/G/00100	1
6	AK/G/00155	1
7	AK/G/00133	2
8	AK/G/00133	2
9	AK/G/00122	3

Exercise 4.21: Removing Duplicate Names to arrive at unique list

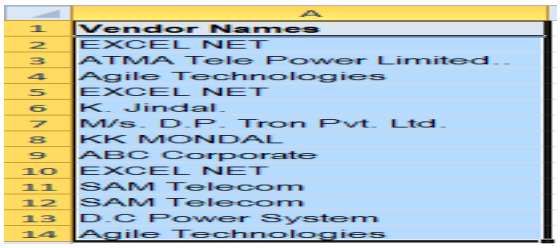
Output

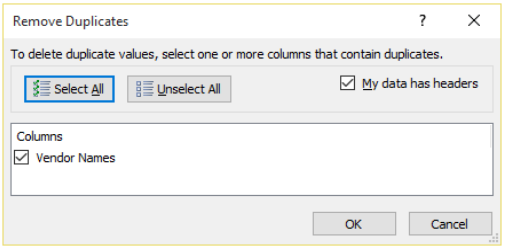
Step 1: Select Data and after choosing the data set, DATA tab -> “Remove Duplicates"



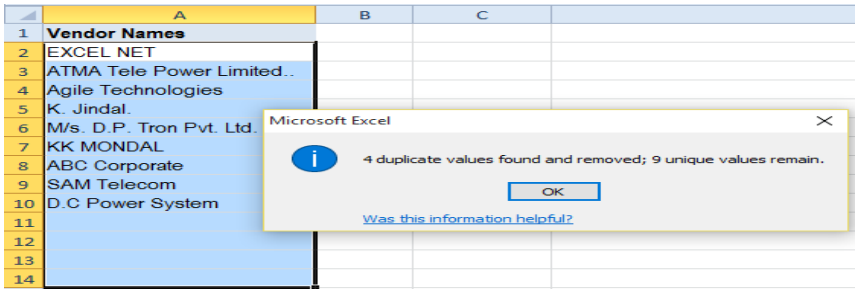


Step 2: The resulting dialog box with “Vendor Names” ticked on should be continued with.





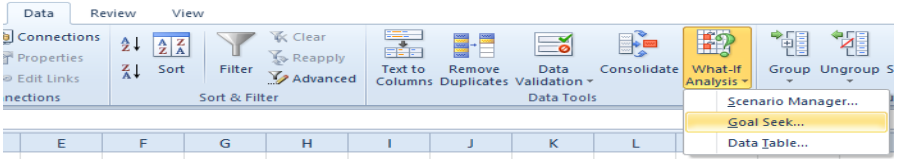
Step 3: “Remove Duplicates” keeps the first instance of the unique name and deletes the duplicates occurring thereafter.



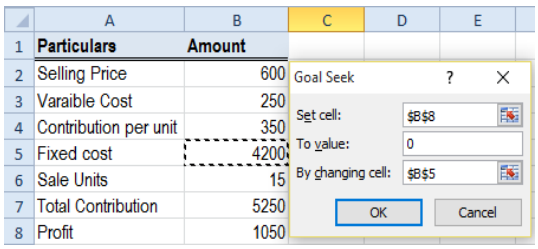
Exercise 4.22: Using Goal seek

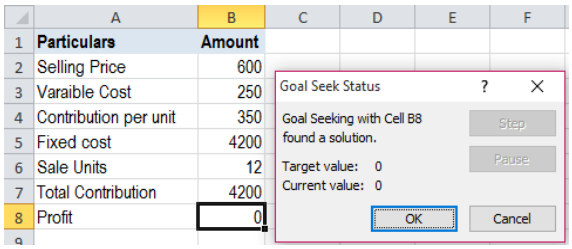
Output

Step -1: Go to > Data Tab > Select What-if Analysis > Select Goal Seek - As shown in below figure



Step -2: Select the relevant information as shown in below figure and press OK





	A	B
1	Particulars	Amount
2	Selling Price	600
3	Varaible Cost	250
4	Contribution per unit	350
5	Fixed cost	4200
6	Sale Units	12
7	Total Contribution	4200
8	Profit	0

We can see that at profit level zero i.e. at break-even the sales units are 12.

Exercise 4.23: Precedents & Dependents

Output

Step 1: Select any cell in the column Gross Amount and to trace the precedents Go to Formula Tab > Formula Auditing Section > Select Trace Precedents function.

	A	B	C	D	E	F	G	H	I
1	Date	Units Sold	SP PU	Gross Amount	Amount Realised	Discount	Employee ID	Commission Rate	Commission Paid
2	01-04-14	120	1540	184800	184260	540	MM	2.5	4620
3	01-04-14	110	1540	169400	168140	1260	RA	1	1694
4	02-04-14	85	1540	130900	128500	2400	MM	2.5	3272.5
5	02-04-14	120	1540	184800	184800	0	SF	5	9240
6	03-04-14	450	1540	693000	691750	1250	MM	1	6930
7	08-04-14	85	1540	130900	130150	750	MM	1	1309
8	11-04-14	450	1540	693000	692250	750	RA	1	6930
9	12-04-14	36	1540	55440	55440	0	RA	1	554.4
10	14-04-14	250	1540	385000	385000	0	MM	2.5	9625
11									
12		Total		2,627,240.00	2,620,290.00				44,174.90

The cells affecting the values in Gross amount column have been identified and arrow marks are placed over them.

Step 2: To determine the dependents of a particular cell select the cell, Go to Formula Tab > Formula Auditing section > Select Trace Dependents function.

	A	B	C	D	E	F	G	H	I
1	Date	Units Sold	SP PU	Gross Amount	Amount Realised	Discount	Employee ID	Commission Rate	Commission Paid
2	01-04-14	120	1540	184800	184260	540	MM	2.5	4620
3	01-04-14	110	1540	169400	168140	1260	RA	1	1694
4	02-04-14	85	1540	130900	128500	2400	MM	2.5	3272.5
5	02-04-14	120	1540	184800	184800	0	SF	5	9240
6	03-04-14	450	1540	693000	691750	1250	MM	1	6930
7	08-04-14	85	1540	130900	130150	750	MM	1	1309
8	11-04-14	450	1540	693000	692250	750	RA	1	6930
9	12-04-14	36	1540	55440	55440	0	RA	1	554.4
10	14-04-14	250	1540	385000	385000	0	MM	2.5	9625
11									
12		Total		2,627,240.00	2,620,290.00				44,174.90

The arrows are pointed towards corresponding Discount Cell & Commission paid cell & also the Totals – this signifies that the values of these cells are affected if there is any change in the value of the selected cell.

** To remove the arrows from the workbook Go to Formula Tab > Formula Auditing section > Select Remove Arrows.

Exercise 4.24: Using IF function

Output

Here =IF (B6>300,"Good","Poor") helps us to determine the grade of a salesman E based on his performance.

	A	B	C	D
1	Employee	Sales Units	Results	
2	A	325	Good	
3	B	280	Poor	
4	C	455	Good	
5	D	127	Poor	
6	E	950	=IF(B6>300,"Good","Poor")	

In the above example the salesmen have been grouped only in two groups however in the following example using IF function multiple times the classification can be increased.

Here =IF(B12<150,"Poor",IF(B12<450,"Good","Excellent")) helps us to determine the grade of salesman K based on the performance the classification would be based on sales affected i.e. <150units = Poor, 150-450 = Good, >450 = Excellent.

	A	B	C	D	E	F	G
1	**Employee**	**Sales Units**	**Results**				
2	A	425	Good				
3	B	98	Poor				
4	C	455	Excellent				
5	D	127	Poor				
6	E	950	Excellent				
7	F	125	Poor				
8	G	225	Good				
9	H	536	Excellent				
10	I	759	Excellent				
11	J	486	Excellent				
12	K	127	=IF(B12<150,"Poor",IF(B12<450,"Good","Excellent"))				

Exercise 4.25: Two Way Lookup Command

Output

	A	B	C	D	E	F
1	**Ref**	**Tran Date**	**Amount**	**CCY**	**Exchange rate**	**Converted value**
2	343	30-06-09	34.66	EUR	68.34	2368.55
3	344	27-08-09	600.00	CAD	44.95	26967.00
4	345	14-09-09	84.99	CAD	45.69	3883.07
5	346	31-07-09	6.38	EUR	68.49	436.96
6	347	18-09-09	80.30	USD	48.32	3879.90
7	348	18-09-09	143.30	CAD	45.39	6504.67
8	349	01-10-09	13.92	INR	1.00	13.92
9	352	30-10-09	16,627.00	USD	47.50	789706.02
10	355	31-10-09	4,950.00	USD	47.20	233624.16
11	356	17-11-09	677.50	CAD	44.15	29908.85
12	357	22-11-09	1,447.54	CAD	44.04	63743.00
13	358	26-11-09	103.25	CAD	44.05	4548.38
14	359	30-11-09	2,947.13	USD	46.58	137277.32
15	360	25-10-09	4,320.00	USD	46.71	201804.05
16	361	17-11-09	140.00	CAD	44.15	6180.43
17	362	30-09-09	20.14	EUR	70.54	1420.58
18	363	30-09-09	53.94	EUR	70.54	3804.66
19	364	31-10-09	895.39	EUR	69.88	62569.58
20	365	30-11-09	166.51	EUR	69.85	11631.26
21	366	31-12-09	541.67	EUR	67.21	36407.86
22	367	31-12-09	72.46	CAD	44.70	3238.85

4.
Database Application Using MS - Access

A. Introduction

Use Database software such as MS Access for importing, exporting and consolidating data from/to multiple formats as required and perform data analysis for assurance, collecting and evaluating evidence, performing what if analysis and reporting.

Sr. No.	Chapter Title	Exercise	Case Studies
Unit 6	**Database Application Using MS - Access**		
1	Advanced SQL Queries	8	-
2	Designing Forms & Reports	11	-
3	Building Criteria Expression	2	-
4	Macros and Switchboards	7	-
	Total	**28**	

Note – The practical illustrations on use of MS-Access have to be solved using the Apex Database available in MS-Access Folder of the Practice Manual. This database contains the following Tables:

Table Name	Fields
Company	Company Name, Company Detail, Credit Limit
Customer	Customer No, Salutation, First Name, Last Name, Company, Street, City, State, Country, Pin, Phone, Email, Credit Limit
Payment	Invoice Number, Line No, Date Paid, How Paid, Amount Paid
Invoice	Invoice No, Sales Order No, Types Of Invoice, Invoice Date, Source Of Order, Payment Term, Paid, Comments, Posted
Inventory	Item Number, Class, Category, Description, Manufacturer, Model, Last Inventory Date, Cost, Cost From Mfg., Retail, Last Order Date, Expected Delivery, Amount Ordered, Quantity In Stock, Quantity On Order, Reorder Point, Reorder Quantity
Sales Item Description	Sales Order No, Line Number, Item Number, Quantity, Unit, Price, Discount, Shipped, Ship Date, Ship Qty.
Sales Order	Sales Order No, Sold To Customer, Sales Date, Ship Date, Payment Term, Shipped Via, Tax, Freight, Other

B. Chapter 1 : Advance SQL Queries

Exercise 1.1: Sub Queries

SM1

Rohit is an Accountant in Apex Ltd. At the closing of the quarter, he has to check the Invoices for which the payments are made in Quarter-I of year 2008.

Solution

Student is requested to create a query to retrieve all records from *Invoices* table for which the *Payment Date* in *Payments* table lies in Quarter-I i.e. between 1/1/2008 and 4/30/2008. Since we do not require any details from the *Payments* table, we use the table in a sub-query.

For Result please refer to Page No 3 of Study Module – I.

Exercise 1.2: Unmatched Queries

SM1

Ankur Mathur, Sales Head of Apex Ltd. wishes to reduce the production of few products. To analyse which products should not be produced further, he needs to find out the products which have not been ordered so far.

Solution

For the purpose of finding the unmatched products in Sales Item Description, students are requested to use Unmatched Query Wizard and find out products from Inventory table which do not have a matching Item Number in Sales Item Description table.

For Result please refer to Page No 9 of Study Module – I.

Exercise 1.3: Duplicate Queries **SM1**

Varun Gupta, a Chartered Accountant in Apex Ltd., is required to audit the invoices and the payments. While tracking the payments he noticed that multiple invoices have been created for a single sales order. To sort out the things, he wishes to check all the sales order having duplicate invoices.

Solution

For above requirement, student are requested to use Find Duplicates Query wizard for table Invoices based on the field Sales Order Number so that it displays all the duplicate invoices created for a single sales order.

For Result please refer to Page No 14 of Study Module – I.

Exercise 1.4: Grouping & Summarising Records using criteria **SM1**

The Country Head in Apex Ltd. wishes to compute the sales volume of its products. He also would like to see the number of orders placed for each product, so that they can focus on products with greater sales volume.

Solution

Here students use a Total query that calculates the count of orders placed for each product and arrange them in descending order of the counts so as to find the products which are sold more.

For Result please refer to Page No 17 of Study Module – I.

Exercise 1.5: Grouping & Summarising Records using a Crosstab Query **SM1**

The company Apex Ltd. wishes to revise the credit limit of its customers. For this purpose, Ashish, the PRO needs a summary report that indicates the count of orders placed by each customer in every month of last financial year i.e. 2011-2012.

Solution

To obtain the desired summary report, students are requested to create a Crosstab query on table Sales Order with month of Sales Date as row heading, Customer Number as column heading and count of Sales Order Number as values.

For Result please refer to Page No 28 of Study Module – I.

Exercise 1.6: PivotTable and PivotChart **SM1**

The Head of Sales Department in Apex Ltd. has demanded a Sales Summary report for review. The following are the desired requirements: the sales of the products can be viewed in terms of Year, Quarters and Months; the report should enable the user to view the products filtered by Category.

Solution

To create this Summary report, students are requested first to create a query that displays the Products and their Category, Sales amount of each product, and also the date on which they were sold. Then to create summary sheet, create a PivotTable view of the query having

a) Category field as a filter b) Product field on row c) Year, Quarter and Month on columns and Total Sales (which is computed as Quantity sold into Product cost) displayed as values

For Result please refer to Page No 34 of Study Module – I.

Exercise 1.7: Joining Tables in Queries **SM1**

The Operations Regional Head of Apex Ltd. is required to produce a report giving the details of the payments received.

For this purpose, two reports are required to be prepared:

- First report indicating the Invoices for which payments have been made, including the invoice and payments detail.
- Second report displaying a list of all the sales order, their invoices and details of payments, including those invoices for which payments have not been received.

Solution

To get the desired result, student are requested to create two queries as a) First query to fulfil the requirement using inner join between tables Invoice and Payments and b) Second query to achieve the second requirement which includes Sales Order, Invoice and Payments tables with a left outer join between Invoice and Payments tables.

For Result please refer to Page No 51 of Study Module – I.

Exercise 1.8: Calculated Fields **SM1**

Ramit, an executive in Apex Ltd. is required to produce a report displaying all the sales orders which contains the field Total Amount Paid as a sum of Tax, Freight and Other Charges.

Solution

Here students are requested to create a query on table Sales Order with a calculated column Total Amount Paid computed as a sum of Tax, Freight and Other Charges.

For Result please refer to Page No 59 of Study Module – I.

C. Chapter 2 : Designing Forms & Reports

Exercise 2.1: Form - Adding Unbound Control **SM1**

The database Apex Inventory Shipment has a form *frmOrders*, based on table *Sales Order* which keeps track of all the orders placed. The Sales Manager wishes to add a current date on the form, so that it becomes easy for the user to keep track of dates.

Solution

Here students are required to add an unbounded control, a label to the form and sets its property to store the current date.

For Result please refer to Page No 69 of Study Module – I.

Exercise 2.2: Adding Graphics to Form **SM1**

The Database Developer wants to make a form *frmOrders* more presentable and thought of adding a picture to the background of this form.

Solution

Here students are required to set the picture as form background using the image control. Select the picture to be added, draw the image control and adjust its properties to make image as a background.

For Result please refer to Page No 71 of Study Module – I.

Exercise 2.3: Adding Unbound Control (Text Box) **SM1**

The Manager wishes to add another date in a form frmOrders, which may indicate when the order will reach customers. This date can be computed as 15 days after the date of shipment.

Solution

Here students are required to add a textbox to the form. This textbox contains calculated value, which is computed as 15 days + date of shipment.

For Result please refer to Page No 74 of Study Module – I.

Exercise 2.4: Adding Unbound Control (Combo box) **SM1**

The executives are making many mistakes while typing the reference of the customer to which orders are sold. The Sales Manager asked the Database Developer to find the solution to this problem.

Solution

The Database Developer thought that it will be a good way to add a combo box for the customers. Users will have an option to choose the value from the list or type a new value if required, thereby decreasing the typing mistakes.

For Result please refer to Page No 78 of Study Module – I.

Exercise 2.5: Adding Unbound Control (Calendar) **SM1**

Database Designer of Apex Ltd. has designed the *frmOrders* form to be used for *Sales Orders* table. The Supervisor of the Customer Service Group informs the designer that people taking orders often need to refer to a calendar to answer customer questions, such as when they will receive a shipment. A calendar is necessary so that customer service employees can take weekends & holidays into account when they make an estimate as to when orders will be shipped.

Solution

Here students are required to add a Calendar control to all the date fields to make the form convenient for the users. A calendar control can be added for Sales Date and Ship Date for users to pick up date graphically.

For Result please refer to Page No 85 of Study Module – I.

Exercise 2.6: Form Design **SM1**

The Sales Manager asks the Information Analyst to store the information of the customer which could be displayed in a friendly manner, such that the customer's personal details and company details can be viewed separately.

Solution

Here students are advised to divide the information into separate tab in a form. One tab in the form should contain customer contact detail, while the other can contain customer's company details, and third tab can contain customer's terms with the company.

For Result please refer to Page No 89 of Study Module – I.

Exercise 2.7: Displaying Summary Data in a Form **SM1**

The Sales Manager wishes to see the summarized data of sales. He requests the Database Developer to create a form in such a manner, that it should display the summarized data in terms of cost of Item Sold per year, per country. For example, he needs a report displaying summary of the items sold country wise and state wise in year 2008 Quarter-2.

Solution

Here students are advised to create a query based on table Sales Order, Customers, Sales Item Description, and Inventory and fetches the required data from it. Once query is created, then a form using pivot table option is created over the query.

For Result please refer to Page No 93 of Study Module – I.

Exercise 2.8: Advanced Reports – Creating Customized Header & Footer **SM1**

The Database Developer has prepared a report *rptCustomers* to display all the details of the customers. The Zonal Sales Head requires the report to be customized; each page of the report must contain the *Report Title* at the top and date & time at bottom.

Solution

Here students are advised to add a Page Header & Footer to the report and customizes the Page Header to hold a label with Report Title, and Page Footer to contain the date & Time using Date Time control.

For Result please refer to Page No 97 of Study Module – I.

Exercise 2.9: Advanced Reports – Adding Calculated Values **SM1**

The Sales Head wishes the customer name should be displayed as a complete name, not as first name and last name. He requests the Database Developer to implement the change.

Solution

Here students are required to add calculated value that concatenates first name and last name in the report rptCustomers and replaces the First Name and Last Name textboxes.

For Result please refer to Page No 102 of Study Module – I.

Exercise 2.10: Advanced Reports – Sub Report **SM1**

The Regional Head notices that the database users face a big problem while tracing the orders placed by each customer. He asks the Database Developer to create a user-friendly object which can display both the customer's details and orders placed by the customer.

Solution

Here students are required to add a sub report to the report rptCustomers which include details of the orders placed by the customers. For this purpose, the table Sales Order is used and the fields Sale to Customer from Sales Order and Customer Number from Customers are mapped.

For Result please refer to Page No 105 of Study Module – I.

Exercise 2.11: Advanced Reports – Adding Chart **SM1**

The Sales Head wishes to create a summary report. The report should show the quarterly total sales for each category. The Sales Head requests the Information Analyst to show a diagrammatic representation of the report.

Solution

Here the best way to display the summary report is to create charts to represent the data. The charts can be included in a report, and based on a query sales data to show its diagrammatic representation.

For Result please refer to Page No 109 of Study Module – I.

D. Chapter 3 : Building Criteria Expressions

Exercise 3.1: Using Functions **SM1**

Apex Ltd. is launching a new production unit in "California", which will also focus on some new products. To promote these products a detailed list of all existing customers from "California" (state code CA) is required.

Solution

Here students are required to create a query that displaying Name, Contact Info and Address of the customers is required. To get only the customers from "California" the value CA in the criteria for the state field needs to be specified. Here, CA is a literal operand and is typed direct in query criteria.

For Result please refer to Page No 124 of Study Module – I.

Exercise 3.2: Using Compound Criteria **SM1**

At the end of a quarter, Country Head of Apex Ltd. wishes to review the following data:

- A report displaying all sales orders placed in from January to March 2008.
- All inventory details from the "Car", "Snowmobile", and "Boat" categories along with the details of the order placed for them.
- A list of all the products that were sold with a quantity greater than 5 or the price greater than 1000.
- A contact list for all Customers whose first name starts with A, B or C.

Solution

For creating the query containing the report of Sales Order, the query will be created on the Sales Order table, using "Between" and "And" operator in query criteria.

The inventory details query will contain the Inventory table and Sales Item Description. The query criteria will be based

on the IN operator.

For obtaining the list of products, query needs to be based on Inventory and Sales Item Description containing compound criteria.

To retrieve the contact list of Customers, query will be based on the Customers table and the criteria for the first name will contain the LIKE operator.

For Result please refer to Page No 131 of Study Module – I.

E. Chapter 4 : Macros and Switchboards

Exercise 4.1: Creating Macro **SM1**

Kanika Mathur, a sales executive in Apex Ltd. is required to send a detailed report of all the orders that have been placed today to the Sales Head every evening in a form of an Excel sheet, also the same sheet also has to be uploaded in a shared folder for delivery to check. She thought to automate the process of transferring records so as to save the efforts required.

Solution

Here students are required to create a macro that transfers the table Orders into Excel and stores it in a shared folder using the TransferSpreadSheet Action. Then, use Send Object Action to mail it to the Sales Head.

For Result please refer to Page No 163 of Study Module – I.

Exercise 4.2: Attaching Macro **SM1**

Based on the above problem scenario in the *Orders* form add a button that enables the user to export and mail the table.

Solution

Here students are required to add a button on the form and attach a macro to the click event of the button.

For Result please refer to Page No 166 of Study Module – I.

Exercise 4.3: Restricted Macro using Where Condition **SM1**

In the *Database Apex Inventory Shipment*, as an enhancement to the *Orders* form, the Manager wishes to see the details of the Customer who has placed the order.

Solution

Here students are required to add a command button to the form. On the click event of the command, a macro will be created that displays the Customers form restricted to the Customer Number for the order.

For Result please refer to Page No 172 of Study Module – I.

Exercise 4.4: Validating Data using a Macro **SM1**

In the *frmOrders* form Rahul Sharma, the database developer in Apex Ltd. is asked to place a check on the *Item Number* field. It is to be ensured that *Item Number* should not be left blank.

Solution

Here students are required to add a macro that will be embedded on the Click event property of the Save Command Button. This macro will check if the Item Number is blank and will display a message accordingly.

For Result please refer to Page No 180 of Study Module – I.

Exercise 4.5: Automating Data Entry using a Macro **SM1**

In the *frmOrders* form, the Operational Manager wishes to see the total cost of the order, which would be computed as *Quantity ordered * price* of an Item.

Solution

Here students are required to add a text box as Total Order Cost to the form and a macro is created on the Exit event of price to compute the total cost of an order. This macro first checks the value of Quantity is not null and then computes Total Cost.

For Result please refer to Page No 186 of Study Module – I.

Exercise 4.6: Creating a Database Switchboard **SM1**

Employees of Apex Ltd. need to keep updating the company database frequently for various reasons. However, employees are confused over the interface that appears when the application is started. The application developer wishes to resolve this confusion by providing a clear and concise environment in which users can reduce the amount of time spent figuring out how to obtain the information they are looking for.

Solution

Here students are required to create a Switchboard form that contains buttons to open the Customers and Inventory tables and the frmOrders form needs to be created. Since switchboard is not capable of opening the tables directly through the Command button, so students must create macros to open the Customers and Inventory tables named as MacroCust and MacroInvent respectively.

For Result please refer to Page No 193 of Study Module – I.

Exercise 4.7: Modifying Database Switchboard **SM1**

The developer noticed that the *switchboard* created in earlier example is not giving a professional look. He wishes to add the *company logo* to the *switchboard*. In addition, he wants to add a new *button* to the *switchboard* which will help the user to create an excel copy of data and mail it to the manager.

Solution

Here students are required to add a company logo to the switchboard by modifying the switchboard in the Design view. To add a new button to the switchboard, use the Edit option in Switchboard Manager. Also create a command button to execute the macro MailCurrentOrders which was created in earlier example.

For Result please refer to Page No 202 of Study Module – I.

5. ERP

A. Introduction

Understand key concepts of Information technology deployment, modules, implementation aspects, selection and key functionalities of Enterprise Resource Planning (ERP) package which include configuration, user creation, access rights, audit logs, reporting, exporting data for relevant reports, reviewing controls, e-filing, etc.

Sr. No.	Chapter Title	Exercise	Case Studies
	ERP		
1	ERP Overview	-	-
2	ERP Implementation	-	-
3	ERP Control and Audit	17	1
4	E - Filing	4	-
Total		**21**	**1**

B. Chapter 1 : ERP Control and Audit

Exercise 1.1 Security Control Exercise ELCD1

Create Security Levels as given below.

Sr. No.	Name of Security Level	Back Dated Access	Type of Access		
			Masters		Transactions
			Accounts	Inventory	
1	Manager	30	Create, Alter, Display	Create, Alter, Display	Create, Alter, Display, Print
2	Accountant	7	Create	Create	Create, Display, Print
3	Operator	1	Display Only	Display Only	Create Only
4	Auditor	0	Display Only	Display Only	Display Only
5	Remote Manager	30	Create, Alter, Display	Create, Alter, Display	Create, Alter, Display, Print
6	Remote Auditor	0	Display Only	Display Only	Display Only

Create User IDs and allocate security levels as under

Sr. No.	Name of User	User ID	Security Level
1	Pankaj Deshpande	Pankaj	Manager
2	Swapnil Ghate	Swapnil	Manager
3	Amit Shirwas	Amit	Accountant
4	Mayura Rahane	Mayura	Operator
5	Nivedita Dighe	Nivedita	Auditor
6	Sumeet Thawri	Sumeet	Auditor
7	You	<Use your actual email ID>	Remote Manager
9	Your Auditor	<Use one more actual email ID>	Remote Auditor

Exercise 1.2 How to have a bird's eye view over master and transaction data in any Tally company? New

Solution

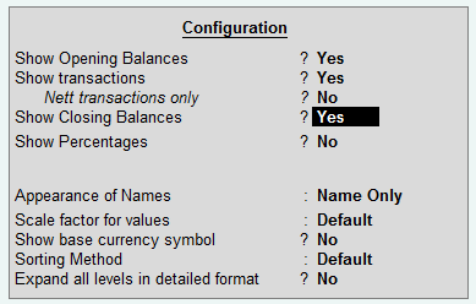
Go to Gateway of Tally > Display > Statement of Accounts > Statistics. This report shows information about master and

transaction data recorded in any tally company. This can be seen for any period as per selection.

Exercise 1.3 How to have a bird's eye view over all the transactions in a tally company? New

Solution

Go to Gateway of Tally > Display > Trial Balance, press F12 and set as under. This report shows trial balance with opening balance, debit total, credit total and closing balance. This helps a user to check overall transactions recording in all the ledgers, either group wise or alphabetically.



Exercise 1.4 Count total numbers of credit transactions in all the debtor ledgers New

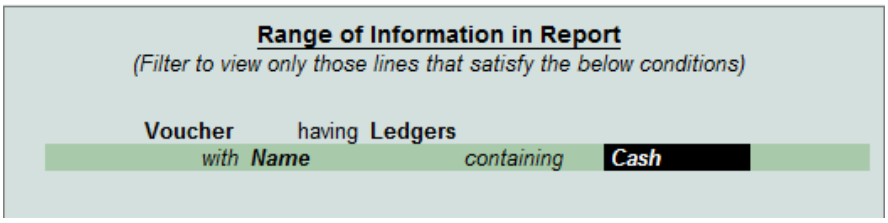
Solution

Go to Gateway of Tally > Display > Account Books > Group Vouchers. Select the group as sundry debtors. Set the period as required. Press F12 and set "Credit Entries Only" in "Select Vouchers to Show".

Exercise 1.5 Count total numbers of cash payments to all the creditors New

Solution

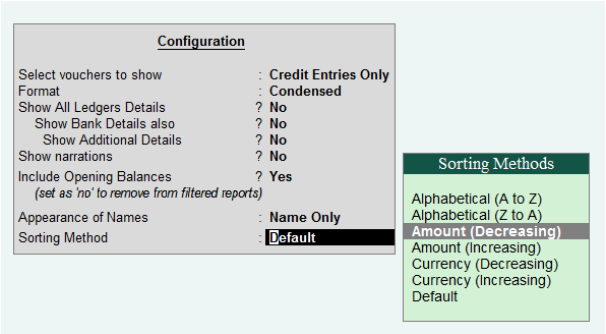
Go to Gateway of Tally > Display > Account Books > Group Vouchers. Select the group as Sundry Creditors. Set the period as required. Press F12 and set "Debit Entries Only" in "Select Vouchers to Show". Press Alt + F12 and set as under.



Exercise 1.6 Identify highest amount of cash payment to any party New

Solution

Go to Gateway of Tally > Display > Account Books > Group Vouchers > Cash-in-Hand group. Press F12 and set "Credit Entries Only" in "Select Vouchers to Show". Sorting method as "Amount Decreasing".



Exercise 1.7 Identify numbers of ledgers not used in current year. **New**

Solution

Go to Gateway of Tally > Audit & Compliance > Audit & Analysis > Verification of Chart of Accounts > Not Used.

Exercise 1.8 Identify numbers of stock items not used in current year. **New**

Solution

Go to Gateway of Tally > Audit & Compliance > Audit & Analysis > Verification of Stock Items > Not Used.

Exercise 1.9 Identify numbers of sales bills pending. **New**

Solution

Go to Gateway of Tally > Audit & Compliance > Audit & Analysis > Pending Documents

Exercise 1.10 Identify numbers of purchase bills pending. **New**

Solution

Go to Gateway of Tally > Audit & Compliance > Audit & Analysis > Pending Documents

Exercise 1.11 Identify ledgers with highest relative size factor. **New**

Solution

Go to Gateway of Tally > Audit & Compliance > Audit & Analysis > Relative Size Factor

Exercise 1.12 Identify numbers of vouchers altered after audit. **New**

Solution

Go to Gateway of Tally > Display > Statement of Accounts > Tally Audit > Voucher Types or Users > Check Altered

Exercise 1.13 Identify numbers of newly created / unaudited vouchers. **New**

Solution

Go to Gateway of Tally > Display > Statement of Accounts > Tally Audit > Voucher Types or Users > Check Entered

Exercise 1.14 Exercise 1.2 Identify transactions on holidays. **New**

Solution

Go to Gateway of Tally > Audit & Compliance > Audit & Analysis > Other Analysis > Transactions on Holidays.

Exercise 1.15 Identify stale cheques / instruments. **New**

Solution

Go to Gateway of Tally > Audit & Compliance > Audit & Analysis > Other Analysis > Stale Cheques / Instruments

Exercise 1.16 Identify stock items with negative stock balance. **New**

Solution

Go to Gateway of Tally > Display > Exception Reports > Negative Stock

Exercise 1.17 Identify debtors having credit balances. **New**

Solution

Go to Gateway of Tally > Display > Exception Reports > Negative Ledgers

C. Chapter 2 : E-Filing

Exercise 2.1: Service Tax 1

ELCD1

Name Of Output Services : Courier Services									
Details Of Billing For Output Services And Receipts									
Date	Bill No.	Name Of Party	Value Of Service	Services Tax @ 12%	Education Cess @ 2%	Higher Secondary Edu. Cess @ 1%	Total Tax	Total	Total Amount Received On
			a	b = 12% of a	c = 2% of b	d = 1% of b	e = b+c+d	f = a+e	
01.04.2014	1	Telco Constr. Equip. Co. Ltd	10,000	1,200	24	12	1,236	11,236	05.05.2014
09.04.2014	2	Bank Of Maharashtra	35,000	4,200	84	42	4,326	39,326	25.11.2014
15.04.2014	3	Parikh Enterprises	5,000	600	12	6	618	5,618	29.04.2014
05.05.2014	4	Telco Constr. Equip. Co. Ltd	7,000	840	17	8	865	7,865	10.05.2014
20.05.2014	5	Bank Of Maharashtra	8,000	960	19	10	989	8,989	24.09.2014
31.05.2014	6	Central Bank Of India	9,000	1,080	22	11	1,112	10,112	Not Received
08.06.2014	7	Bank Of Maharashtra	25,000	3,000	60	30	3,090	28,090	20.09.2014
18.06.2014	8	Parikh Enterprises	15,000	1,800	36	18	1,854	16,854	18.06.2014
29.06.2014	9	Central Bank Of India	8,000	960	19	10	989	8,989	14.08.2014
15.07.2014	10	Sandal Enterprise	20,000	2,400	48	24	2,472	22,472	16.09.2014
27.07.2014	11	Telco Constr. Equip. Co. Ltd	7,000	840	17	8	865	7,865	15.12.2014
21.08.2014	12	Central Bank Of India	50,000	6,000	120	60	6,180	56,180	11.09.2014
10.09.2014	13	Bank Of Maharashtra	25,000	3,000	60	30	3,090	28,090	06.10.2014
20.09.2014	14	Central Bank Of India	42,000	5,040	101	50	5,191	47,191	10.10.2014
06.10.2014	15	Bank Of Maharashtra	12,000	1,440	29	14	1,483	13,483	07.11.2014
			2,78,000	**33,360**	**667**	**334**	**34,361**	**3,12,361**	

Details Of Payment Towards Input Services							
Date Of Bill	Bill No.	Name Of Party	Value Of Services	Service Tax + Cess @ 10.3%	Total	Amount Paid On	Description Of Input Services
15.05.2014	YF/582	Youth Force Security	4,000	412	4,412	16.06.2014	Security Services
04.07.2014	T00082	Bharat Sanchar Nigam Ltd	2,000	206	2,206	15.07.2014	Telephone Services
15.07.2014	MP-336	Micropro Software Solutions	5,000	515	5,515	14.11.2014	Repairing And Maintenance
20.08.2014	636	Hotel Centre Point	10,000	618	10,618	20.09.2014	Mandap Keeper Services
17.09.2014	33	Photo Fast	3,000	309	3,309	15.10.2014	Photography Services
15.10.2014	S-023	Shells Advertising Inc.	7,000	721	7,721	25.10.2014	Advertising Services

Exercise 2.2: Service Tax 2

ELCD1

Sonali, **R**aveena and **K**arishma decided to start business in partnership under name **SRK** Enterprises. The decided to enter into service industry and started providing beauty parlour service, heath club service and interior decoration service.

Following are the transactions of billing along with receipt details during the year 2014-15

Sale of Service:

Bill No.	Date	Party	Description	Value of Service	Service Tax	Edu. Cess	H.S. Edu. Cess	Total	Received on	Amount Received
1	01.04.2014	Balwan Khan	Enrolled for membership of Health Club for three months.	10,000	1,200	24	12	11,236	01.04.14	11,236
2	02.04.2014	Funny Deol	Enrolled for membership of Health Club for six months.	17,500	2,100	42	21	19,663	02.05.14	19,663
3	01.05.2014	B. Aishwarya	Registered for monthly membership of beauty parlour for the month of May 2010	15,000	1,800	36	18	16,854	01.07.14	16,854
4	02.05.2014	M. Rani	Registered for monthly membership of beauty parlour for three months starting from 01.05.10	12,500	1,500	30	15	14,045	02.05.14	14,045
5	01.06.2014	K. Akshay	Entered into a contract for changing interior of his flat. The work was completed and bill was raised.	2,50,000	30,000	600	300	2,80,900	02.06.14	2,80,900
6	02.06.2014	R. Hritik	Entered into a contract for renovation of interior of his office. The work was completed and bill was raised.	3,50,000	42,000	840	420	3,93,260	01.07.14	3,93,260
7	01.07.2014	Balwan Khan	Renewed his membership of health club for three more months.	12,500	1,500	30	15	14,045	Not received	
8	02.07.2014	Baby Deol	Enrolled for membership of Health Club for six months.	20,000	2,400	48	24	22,472	02.07.14	12,000
9	01.08.2014	B. Aishwarya	Renewed her membership for beauty parlour for three months starting from 01.08.10	40,000	4,800	96	48	44,944	15.11.14	44,944
10	02.08.2014	M. Rani	Renewed her membership for beauty parlour for three months starting from 01.08.10	15,000	1,800	36	18	16,854	22.11.14	16,854
11	01.09.2014	R. Hritik	Enrolled for membership of Health Club for three months starting from 01.10.10	12,500	1,500	30	15	14,045	01.11.14	14,045
12	02.09.2014	B. Aishwarya	Enrolled for membership of Health Club for three months starting from 01.10.10	10,000	1,200	24	12	11,236	Not received	
				7,65,000	**91,800**	**1,836**	**918**	**8,59,554**		

Purchase of Service:

Bill No.	Date	Party	Description	Value of Service	Service Tax	Edu. Cess	H.S. Edu. Cess	Total	Paid on	Amount Paid
YRS/046	01.04.2014	Yash Raj Studios	Bill received for audio recording of jingle for TV advertisement.	13,000	1,560	31	16	14,607	02.05.14	14,607
SSS/054	02.04.2014	Shetty Security Services	Bill received for providing 2 security guards for office.	15,000	1,800	36	18	16,854	02.05.14	16,854

T/07659	01.05.2014	BSNL	Bill received for office telephone bill.	15,000	1,800	36	18	16,854	01.07.14	16,854
554	02.06.2014	Hotel Taj	Bill received for arranging a party for prospective customs. (Mandap Keeper Service)	75,000	9,000	180	90	84,270	02.07.14	84,270
667	02.07.2014	Jagdish Mali	Bill received for photography at taj hotel party	20,000	2,400	48	24	22,472	01.11.14	10,000
				1,38,000	**16,560**	**331**	**166**	**1,55,057**		

Payment of Service Tax:

1. Paid service tax for the quarter April to June on 02.07.14 after deducting CENVAT Credit.
2. Paid service tax for the quarter July to Sep on 02.10.14 after deducting CENVAT Credit.

Exercise 2.3: TDS 1 **ELCD1**

Type of Deductor: - Partnership Firm (Non-Government) **TAN of Head Office:** N.A.

TAN: - TRKD53565N **Ward:** - Ward (1)

Following are the details of payments made during 2010-11

Sr	Date	Name of Party	Deductee Status	PAN	Reason for payment	TDS Nature of payment	TDS Rate	Total Expenditure	TDS	Net Payment
1	01.04.14	S. Gandhi Controls Ltd.	Company-Resident	RFTCS7657G	For execution of painting contract for office building	Payment to contractor (other than advertisement)	2%	75,000	1,500	73,500
2	02.04.14	S. Pawar Pvt. Ltd.	Company-Resident	HTYCV5454D	For execution of painting contract for office building	Payment to contractor (other than advertisement)	2%	50,000	1,000	49,000
3	02.04.14	Man Mohan	Individual-Resident	AGIPM0879N	For execution of plumbing contract for office building	Payment to contractor (other than advertisement)	1%	25,000	250	24,750
4	01.05.14	PWC	Partnership Firm	AAEFP7381C	Certification of Cash & Bank Balance	Fees for professional services	10%	1,00,000	10,000	90,000
5	02.05.14	Nitin G.	Individual Resident	AGUPG3989K	Rent for office premises	Rent	10%	40,000	4,000	36,000
6	02.05.14	C.C. Enterprises	Individual Resident	ARGPC4434L	Rent for office premises	Rent for office premises	10%	25,000	2,500	22,500
7	01.06.14	Pranav M.	Individual Resident	POHPM2312B	Interest on unsecured loan	Interest other than interest on securities	10%	15,000	1,500	13,500

Sr	Date	Name of Party	Deductee Status	PAN	Reason for payment	TDS Nature of payment	TDS Rate	Total Expenditure	TDS	Net Payment
8	01.06.14	Ramnath Singh & Co.	Partnership Firm	LPIFR1427V	Interest on unsecured loan	Interest other than interest on securities	10%	20,000	2,000	18,000
9	02.06.14	C. Prasad Madhav	Individual	PLMPM4324M	Interest on unsecured loan	Interest other than interest on securities	10%	25,000	2,500	22,500
10	02.06.14	Maha Maya	Individual	RTYPM1234L	Road show arrangements	Payment to contractor (advertisement)	1%	10,000	100	9,900
11	02.06.14	Amar & Co.	Partnership Firm	PLMFA9876G	For gathering crowd	Brokerage	10%	30,000	3,000	27,000

Exercise 2.4: TDS 2 **ELCD1**

Following are the transactions entered into with Image India Inc.

Name of Expenses: Advertisement Expenses **Party Image** India Inc.

Deductee Status: Individual / HUF Resident **PAN of Deductee**: ABCDT1234J

Nature of Payment: Payment to Contractors (Advertisement)

Date	Voucher No.	Voucher Type	Particulars	Billing	TDS	Net Payment
01-05-14	P01	Payment	Advance given Rs. 1,00,000		1,000	99,000
02-05-14	J01	Journal	Bill received for services	2,00,000	1,000	
03-05-14	P02	Payment	Amount demanded by Party Rs. 3,00,000		2,010	2,97,990
04-05-14	J02	Journal	Bill received for services	4,00,000	1,990	
05-05-14	P03	Payment	Amount demanded by Party Rs. 3,00,000		1,030	2,98,970
06-05-14	J03	Journal	Bill received for services	1,00,000	-	
07-05-14	J04	Journal	Bill received for services	50,000	470	
08-05-14	P04	Payment	Amount demanded by Party Rs. 5,00,000		4,535	4,95,465
09-05-14	J05	Journal	Bill received for services	6,00,000	1,465	
10-05-14	P05	Payment	Final payment		-	1,45,075
			Total	**13,50,000**	**13,500**	**13,36,500**