COMPUTER STUDIES NOTES

FORM 2

**Automatic calculations**

By default, **Microsoft Excel** recalculates the worksheet as you change cell entries. This makes it easy for you to correct mistakes and analyze a variety of scenarios. Make the changes described below and note how Microsoft Excel automatically recalculates.

1. Move to cell A2.(P)  
2. Type 2.(P)  
3. Press the right arrow key. Excel changes the result in cell A4. Excel adds cell A2 to cell A3 and the new result appears in cell A4.(P)  
4. Move to cell B2.(P)  
5. Type 8. (P)  
6. Press the right arrow key. Excel subtracts cell B3 from cell B2 and the new result appears in cell B4.(P)  
7. Move to cell C2.(P)  
8. Type 4.(P)  
9. Press the right arrow key. Excel multiplies cell C2 by cell C3 and the new result appears in cell C4.(P)  
10. Move to cell D2.(P)  
11. Type 12. (P)  
12. Press the Enter key.(P) Excel divides cell D2 by cell D3 and the new result appears in cell D4.(P)

***Product***A better way of using the product function is to type the numbers you are multiplying into cells on the spreadsheet and then enter those cell references (the address of the cells) into the function. For example, if we enter the numbers 235 and 546 into cells C1 and C2, we would write the function as:   
=PRODUCT( C1:C2 )

The answer is 128,310. If the numbers ever change, you only need to change the numbers in cells C1 or C2 and the function automatically updates the answer. For example, if you find that the number in C1 wasn't 235 but 230, simply type 230 in cell C1 and the function updates the answer to 128,580.   
  
Statistical functions  
Average

Example Using Excel's AVERAGE Function:  
  
The MAX function  
Using minimum function  
The MAX functiion  
  
The MAX functiion is used to find the largest or maximum number in a given list of values.Follow the steps to determine the maximum value for the given set of numbers using the MAX function

1. Enter the following data into cells C1 to C6: 114,165,178,143,130,167.(P)
2. Click on cell C7 - the location where the results will be displayed.(P)
3. Type = max( in cell C7.(P)
4. Drag select cells C1 to C6 with the mouse pointer.(P)
5. Type the closing bracket after the cell range in cell C7.(P)
6. Press the ENTER key on the keyboard.(P)
7. The answer 178 appears in cell C7.(P)
8. The complete function = MAX ( C1 : C6 ) appears in the formula bar.(P)

***The Count Function***The count funtion is used to total the number of cells in a selected range. The COUNT function will add up the number of cells in a selected range that contains numbers. COUNT also ignores empty cells in the selected range. If number data is later added to an empty cell in the range, the count total is automatically updated. Follow the steps below to determine the number of values for the given set of numbers using the COUNT function  
  
  
**Using the count Function**  
1. Enter the following data into cells C1 to C6: 11,12,13,14,15,16.(P)  
3. Type =count( in cell C7.(P)  
5. Type the closing bracket ")" after the cell range in cell C7.(P)  
7. The answer 6 appears in cell C7.(P)  
8. The complete function =COUNT(C1:C6) appears in the formula bar.(P)

**Note:** Since dates, times, and formulas are stored as numbers in Excel, the COUNT function will include any cells containing these types of data in the total.   
  
Ligical functions  
Describe a logical function  
Apply basic logical functions  
  
the IF  
  
1. Enter 35 into cell D1.(P)2. Click on cell E1 - the location where the results will be displayed.(P)3. Click on the Formulas tab.(P) 4. Choose Logical Functions from the ribbon to open the drop down list.(P)

5. Click on IF in the list to bring up the function's dialog box. (P) 6. On theLogical\_test line in the dialog box, click on cell D1. After this type the less than symbol and then the number 26. (P) 7. On the Value\_if\_true line of the dialog box, type 100.(P) 8. On the Value\_if\_false line of the dialog box, type 200.(P) 9. Click OK.(P) 10. The value 200 should appear in cell E1, since the value in D1 is greater than 26.(P) 11. To change the result in cell E1, change the number in cell D1 to 15 and press the Enter key.(P)12. The value 100 should now be present in cell E1 since the value in D1 is now less than 26.(P)13. If you click on cell E1, the complete function = IF ( D1 26 , 100 , 200 ) appears in the formula bar above the worksheet.(P)

***Using the count IF function***

1. Enter the following data into cells E1 to E6: 114,165,178,143,130,165.(P)
2. Click on cell E7 - the location where the results will be displayed.(P)
3. Click on the Formulas tab.(P)
4. Choose More Functions > Statistical from the ribbon to open the function drop down list.(P)
5. Click on COUNTIF in the list to bring up the function's dialog box. (P)
6. In the dialog box, click on the button at the end of the Range line to return to your spreadsheet.(P)
7. Drag select cells E1 to E6 on the spreadsheet to highlight them.(P)
8. Click on the button at the end of the Range line to return to the dialog box.(P)
9. On the Criteria line in the dialog box, type "165".(P)
10. Click OK.(P)
11. The answer 2 should appear in cell E7 since two cells in the range contain the number 165.(P)
12. When you click on cell E7 the complete function = COUNTIF (E1 : E6 , 165 ) appears in the formula bar above the worksheet(P)

**SUM IF**  
2. Enter the following data into cells F1 to F6: 10, 20, 30, 10, 20, 30.(P)  
3. Click on cell F7 - the location where the results will be displayed.(P)  
4. Click on the Formulas tab of the ribbon.(P)  
5. Choose Math & Trig from the ribbon to open the function drop down list.(P)  
6. Click on SUMIF in the list to bring up the function's dialog box. (P)  
7. In the dialog box, click on the Range line.(P)  
8. Drag select cells E1 to E6 on the spreadsheet.(P)  
10. Click on the SUM Range line.(P)  
11. Drag select cells F1 to F6 on the spreadsheet.(P)  
12. Click OK.(P)  
13. The answer 50 should appear in cell F7. Since the criteria of equaling 165 is met by only two cells - E2 and E6, only their corresponding cells - F2 and F6 are summed. The sum of 20 and 30 is 50.(P)  
  
**Data Management**

Microsoft Excel data management tools enable you to create lists, sort and filter data to find specific information that meets the set criteria.  
  
Data Management  
Sorting and   
Apply sorting  
  
**Tables of Data**  
The basic format for storing data in an Excel database is a table. Once a table has been created, Excel's data tools can be used to search, sort, and filter records in the database to find specific information. An example of such a table is as shown here.  
Entering a Record   
  
**Rows and records**

Each individual row of data, in a database is known as a record. When entering records keep these guidelines in mind:   
Leave no blank rows in the table being created. This includes NOT leaving a blank row between the column headings and the first row of data.  
A record can contain data about only one specific item.   
A record must also contain ALL the data in the database about that item. There can't be information about an item in more than one row.  
  
**Columns and fields**

While rows in an Excel database are referred to as records, the columns are known as fields. Each column needs a heading to identify the data it contains. These headings are called field names.   
  
Field names are used to ensure that the data for each record is entered in the same sequence. Make sure that all the data in a column is entered using the same format. If you start entering numbers as digits (such as 10 or 20) keep it up. Don't change part way through and begin entering numbers as words (such as ten or twenty). Be consistent.  
Do not leave blank columns in the table.