Computer Group Notes

RADLETT & DISTRICT

Overview of a Spreadsheet

THE UNIVERSITY OF THE THIRD AGE

A spreadsheet is a document that stores data in a grid of horizontal rows and vertical columns. Rows are typically labelled using numbers (1, 2, 3, etc.), while columns are labelled with letters (A, B, C, etc). Individual row/column locations, such as C3 or B12, are referred to as cells. Each cell can each store a unique instance of data. By entering data into a spreadsheet, information can be stored in a more structured way than using plain text. The row/column structure also allows the data to be analysed using formulas and calculations.

For example, each row of a spreadsheet may store information about a person who has an account with a certain company. Each column may store a different aspect of the person's information, such as the first name, last name, address, phone number, favourite food, etc. The spreadsheet program can analyse this data by counting the number of people who live in a certain post code, listing all the people whose favourite food is fried veal, or performing other calculations. In this way, a spreadsheet is similar to a database.

However, spreadsheets are more streamlined than databases and are especially useful for processing numbers. This is why spreadsheets are commonly used in scientific and financial applications. For example, a spreadsheet may store bank account data, including balance and interest information. A column that stores the account balances of several clients can easily be summed to produce the total value of all the clients' balances. These amounts can be multiplied by the interest rate from another cell to see what the value of the accounts will be in a year. Once the formula has been created, modifying the value of just the interest rate cell will also change the projected value of all the accounts.

The most commonly used spreadsheet application is Microsoft Excel, but several other spreadsheet programs are available including IBM Lotus 1-2-3 for Windows and AppleWorks and Numbers for Mac OS X. The office suite, Open Office *www.openoffice.org*, also has a spreadsheet and is **free**.

Data Types

There are essentially 3 types of data that can be entered into any given cell. They are:

TEXT – letters or labels for use within a spreadsheet.

NUMERIC – any number, percentage, currency, time or date value.

	A	B
1		5
2		10
3		15
4		20
5	Total	50

FORMULA – used to evaluate data values in other cells, e.g. the formula =SUM (B1:B4) in cell B5 will add all the values entered in column B cells 1 to 4 and put the total in B5.

Examples

1. Society **membership database**. All data is either text or numeric. Data can be sorted, filtered and rearranged to suit different needs. Column headings are SORT_NAME, NAME, SORT_HOUSE, HOUSE_NO, ROAD, PHONE_NO., PAID_TO, ROUND, HELPER, COMMITTEE, COMMENTS, TOWN, COUNTY, POST_CODE, EMAIL.

   A second worksheet is used to provide summary information, namely -- Total number of members, Number of members that have paid their subs up to date etc. This sheet uses formulae to extract the information from the first sheet above.

2. **Energy Records.** Figures taken from energy company statements to enable the evaluation of energy (gas and electricity) consumption with time. The results can be plotted onto a graph.

Gas									
Bill date	Period start	Period end	Energy used kWh	Cost inc VAT	Notes	Cost/kWh	Period duration, days	Cost/day	Total cost / year
24/3/06	15/12/05	23/3/06	8392.00	£166.25		£0.02	99	£1.68	
16/6/06	23/3/06	15/6/06	2463.00	£54.40		£0.02	85	£0.64	
16/9/06	16/6/06	15/9/06	602.45	£16.10		£0.03	92	£0.18	
15/12/06	16/9/06	14/12/06	3794.00	£79.80		£0.02	90	£0.89	£315.69
27/3/07	15/12/06	22/3/07	7042.81	£134.41	meter read both dates	£0.02	98	£1.37	£284.71
29/6/07	23/3/07	22/6/07	2217.00	£66.04	Change to payment method	£0.03	92	£0.72	£290.77
14/9/07	23/6/07	13/9/07	817.00	£34.86		£0.04	83	£0.42	£316.85
18/2/07	14/9/07	17/12/07	5207.00	£138.06		£0.03	95	£1.45	£370.33
27/3/08	18/12/07	20/3/08	6895.21	£174.47	estimated rdgs	£0.03	94	£1.86	£414.57
1/7/08	21/3/08	23/6/08	2581.37	£82.42	estimated rdgs; price inc 1/6/08	£0.03	95	£0.87	£427.47
19/9/08	24/6/08	18/9/08	1518.70	£72.48	Solar panels installed 21/5/08. Price inc on 30/7/08	£0.05	87	£0.83	£459.87
24/12/08	19/9/08	23/12/08	4841.63	£203.74		£0.04	96	£2.12	£523.08
22/4/09	24/12/08	22/4/09	5982.00	£241.39	Price inc on 22/2/09	£0.04	120	£2.01	£550.28
17/6/09	23/4/09	16/6/09	540.27	£31.98		£0.06	55	£0.58	£560.34
23/9/09	17/6/09	22/9/09	222.33	£15.16		£0.07	98	£0.15	£486.93
15/12/09	23/9/09	14/12/09	3238.25	£126.93		£0.04	83	£1.53	£425.96
24/3/10	15/12/09	23/3/10	8786.62	£305.07		£0.03	99	£3.08	£522.05
29/5/10	24/3/10	29/5/10	1705.72	£70.65		£0.04	67	£1.05	£544.67
3/9/10	30/5/10	3/9/10	285.53	£19.84		£0.07	97	£0.20	£551.18
7/12/10	4/9/10	7/12/10	3648.83	£137.15	Final bill w B Gas. Switch to Scottish Power	£0.04	95	£1.44	£543.13
1/3/11	7/12/10	28/2/11	7298.00	£178.26		£0.02	83	£2.15	£433.20
25/5/11	28/2/11	24/5/11	1990.00	£62.15		£0.03	85	£0.73	£402.92
15/8/11	24/5/11	14/8/11	221.00	£12.19		£0.06	82	£0.15	£412.34
4/11/11	14/8/11	3/11/11	758.00	£51.25		£0.07	81	£0.63	£335.06
23/1/12	4/11/11	22/1/12	4916.00	£197.45		£0.04	79	£2.50	£360.58
12/4/12	23/1/12	11/4/12	4703.00	£184.95	Price decrease 27 Feb 12	£0.04	79	£2.34	£506.95
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