Introduction

As part of my FETAC Level 5 Spreadsheet Methods module I was required to setup a spreadsheet for a retail outlet that sells clothing and equipment. I designed my spreadsheet for Kerry Outdoor centre. The spreadsheet will track wages and sales for 12 employees some of whom work on a part time basic. This spreadsheet will include rate of pay, hours worked, overtime worked, sales, bonuses will be given for sales of equipment over €3000.00 deduction will include PRSI (1%). It will also show the maximum, minimum and average of wages, sales of clothing and equipment.

Overview of Company details and aims

Kerry outdoor centre is located on the ground floor of the Killarney Outlet Centre in the heart of Killarney town centre. The company has been in operation of the past 3 years. It currently employees 12 people some of which work on a part time basic. Each employees work card shows there name, position in the company, hours worked in the week and overall sale of clothing and equipment for the week. Some of the employees are on higher rates of pay due to their position within the company. The owner Jay has 6 years of retails experience but requires someone to design a spreadsheet that is simple to use and easily shows employees sales and wages. Currently there is no computerised system in place to calculate employees' wages it's all done manually. He hopes for less mistakes in wages with the computerised system.

The spreadsheet will aim to:

- Shows the rate of pay for each employee.
- Show Sales of equipment and clothing for the week by each employee.
- Show the deductions from the employee wages.
- Show which employee gets a bonus and which employees don't get a bonus.

- Calculate the take home pay.
- It will also show the maximum and minimum amount of clothes and equipment sold.

Problems and solutions

Problem: A big problem that I met when designing the spreadsheet was that each employee receives different rates of pay depending on their position within the company.

Solution: The solution for this problem was to use a VLOOPUP table that held the information of the position and the basic pay for that position. This made working out the employee rate of pay very simple because we knew what position they held (B4-B15) and using the VLOOPUP function it told us the corresponding rate of pay in cell C4-C15.

Problem: I had a problem of where to put in the PRSI and how to calculate the PRSI within the table.

Solution: I decided to create a field called Deduction (PRSI 1%), and multiplied the Pay with bonus in cell J4-J15 by 1% to work out how much PRSI each employee was paying.

Problem: Another issue with setting up this spreadsheet was to work out wether the employee got a bonus or didnt get a bonus.

Solution: Using an IF statement was the best solution for this problem as it checked wether the empoyee had sold enough equipment to be entitled to a bonus or if they hadnt sold enough equipment to get the bonus. It gave an answer of "Yes" in Cells H4-H15 if they had sold over €3000.00 worth of equipment from cells G4-G15 and gave the answer of "No" if they hadn't sold over €3000.00 of equipment.

Input data

Input data is information in the spreadsheet that does not need a formula to be worked out, the information is known.

Cell Name	Data Type	Width	Format	Protection	Cell Reference
Employee name	Text	16.86	Left aligned	No	A3 – A15
Position	Text	16	Left aligned	No	B3 – B15
Total Hours worked	Numbers	12.29	Centre aligned	No	C3 – C15
Sales: Clothing	Currency	9.86	Right aligned	No	F3 – F15
Sales: Equipment	Currency	10.43	Right aligned	No	G3 – G15

Output data

Output data is information that changes. The user needs to use formulas to calculate the information.

Cell Name	Data Type	Width	Format	Protection	Cell Reference
Rate of pay	Currency	16.29	Right aligned	Yes	D3 – D15
Net income	Currency	8.43	Right aligned	Yes	E3 – E15
Bonus	Yes/No	8.43	Right aligned	Yes	H3 – H15
Bonus Rate	Currency	8.43	Right aligned	Yes	I3- I15
Pay with bonus	Currency	8.43	Right aligned	Yes	J3 – J15
Deduction (PRSI 1%)	Currency	10.71	Right aligned	Yes	K3 – K15
Take home pay	Currency	11.57	Right aligned	Yes	L3 – L15
Maximum	Currency	8.43	Right aligned	Yes	E18- E20
Minimum	Currency	9.86	Right aligned	Yes	F18 –F20
Average	Currency	10.43	Right aligned	Yes	G18 – G20

Data Processing

The following is a description of the formulas I used in the spreadsheet to calculate the output data.

Rate of pay: Is got using a VLOOKUP function in cells D4 to D15 to find the rate of pay identified in C4 to C15 , you absolute cell function So that the table array doesn't change. E.G=VLOOKUP(B4,$A$18:$B$21,2,FALSE)

Net income is calculated by multiplying hours worked in cell C4-C15 by rate of pay in cell D4-D15. E.G =(C4*D4)

Bonus is got my using an IF statement. If sales of equipment is over €3000.00 in cells G4-G15 they get a bonus, if sales of equipment is less than €3000.00 they don't get a bonus. E.G =IF(G4<=3000,"Yes",IF(G4>3000,"No"))

Bonus Rate is calculated using an IF statement. If they received a bonus in cell H4-H14 they get €100.00, if they don't get a bonus in cells H4-H14 they get €0.00. E.G =IF(H4="No",0,IF(H4="Yes",100))

Pay with Bonus is got by adding net income in cell E4-E14 and bonus rate together in cell I4-I14. E.G =(E4+I4)

Deductions were got by multiplying the pay with bonus in cell J4-J14 by 1%. E.G =(J4*1%)

Take home pay was got by taking deduction in cell K4-K15 from pay with bonus in cell J4-J15. E.G =(J4-K4)

Maximum clothing sold was done using the MAX function. This function finds the biggest value in a selected array E.G =MAX(F4:F15)

Minimum clothing sold was done using the MIN function. This function finds the smallest value in a selected array E.G MIN(F4:F15)

Average clothing sold was got by using the AVERAGE function. This adds up all the figures in a selected array and divided by the total numbers E.G AVERAGE(F4:F15)

Maximum equipment sold was done using the MAX function. This function finds the biggest value in a selected array E.G =MAX(G4:G15)

Minimum equipment sold was done using the MIN function. This function finds the smallest value in a selected array E.G MIN(G4:G15)

Average equipment sold was got by using the AVERAGE function. This adds up all the figures in a selected array and divided by the total numbers E.G AVERAGE(G4:G15)

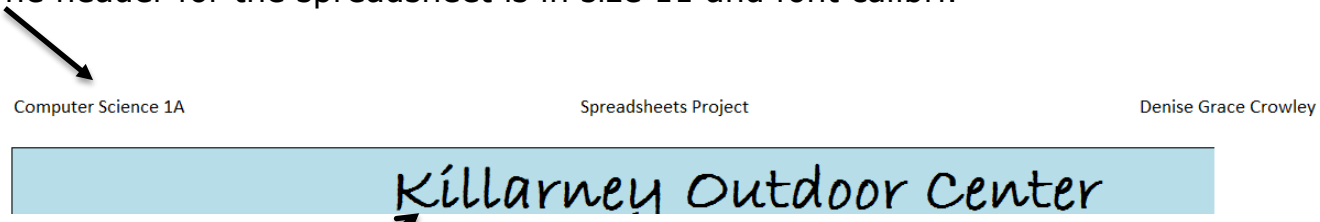
Maximum wages was done using the MAX function. This function finds the biggest value in a selected array E.G =MAX(L4:L15)

Minimum wages was done using the MIN function. This function finds the smallest value in a selected array E.G MIN(L4:L15)

Average wages was got by using the AVERAGE function. This adds up all the figures in a selected array and divided by the total numbers E.G AVERAGE(L4:L15)

Layout of spreadsheet

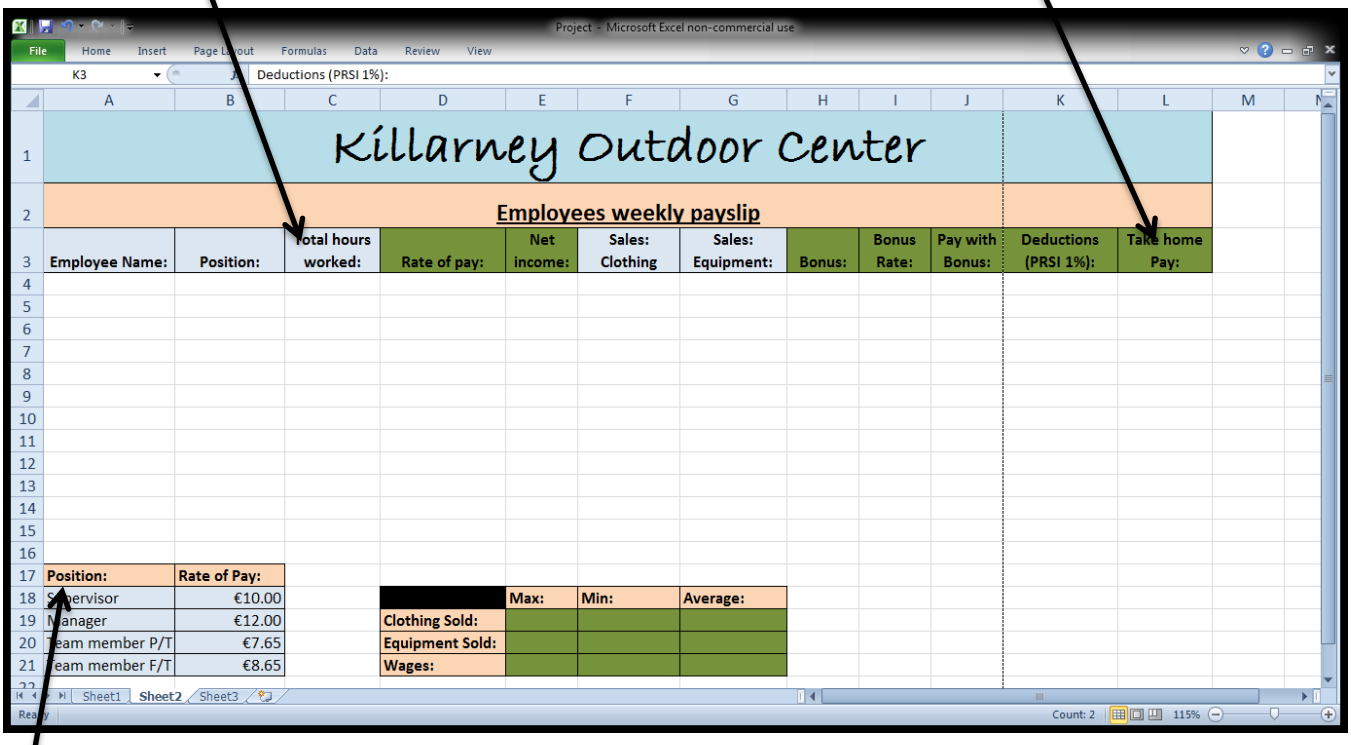
The header for the spreadsheet is in size 11 and font calibri.



The Company name is in size 36, bold and font Hradley Hand ITC. The headding banner is merged and centered.

Input data is show using a lighter colour in the spreadsheet and a darker colour is used to show output data.

The text is wrapped so that is all fits in neatly to the screen.



The main text is written in size 11 Calibri with the heading being in bold.

I chose this style of layout as it's clear to see all the heading and what data is needed to be inputted by the user. Its also easy to see the lookup table.
I left room between the employee names and were the array table is so that it is clear and not all cramped together

Evaluation

I am very pleased with the overall outcome of my spreadsheet project. The computerised system has been of great benefit to the company. They find it quicker inputting the data into the spreadsheet as the results appear instantly on the screen. The owner finds it great that the rate of pay is got by just inputting the employee's position.

One of the big problems that i had at the start of doing my spreadsheet prject was trying to decide wether to calculate the wages for each employee daily, weekly or monthly and wether to use clock in/clock out times or just to use total hours worked. In the end i decide to go with total hours work in a week to calculate the weekely wage as i felt this system would work well for the owner of the company.

One of the modifications I would make to my spreadsheet is that I would have added a surname field so that the spreadsheet could be sorted alphabetically.

I would have also like the spreadsheet to flag employees that haven't earned bonuses so that the owner is aware which members of staff are not selling the equipment very well.

I would have also added a total wage column so that the owner can see how much money he is paying out in wages each week.