COMP1022Q
Introduction to Computing with Excel VBA

Range References

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Referring to Cells

- An Excel formula may contain a function
- For example, `SUM()`, `MAX()`, and `AVERAGE()`
- Such functions typically perform operations on several different cells i.e. `SUM(A2:B4)`
- In Excel we use the general expression 'a *range* of cells' when something refers to cells
- Excel provides several ways to refer to ranges of cells, as shown in the following slides

Range References – One Cell

	A	B	C	D	E	F
1	**Referring to a Range of Cells**					
2	*This example shows how you can refer to a range of cells in formulas. The SUM() function is used to demonstrate this by calculating the spending of food from the table in various ways.*					
3						
4		**Monday**	**Tuesday**	**Wednesday**	**Thursday**	**Friday**
5	**Breakfast**	HK$18.00	HK$20.00	HK$18.00	HK$17.50	HK$18.00
6	**Lunch**	HK$23.00	HK$30.00	HK$22.00	HK$22.00	HK$21.50
7	**Tea**	HK$17.00	HK$19.00	HK$15.50	HK$20.00	HK$17.50
8	**Dinner**	HK$32.50	HK$43.00	HK$28.00	HK$25.00	HK$36.00
9	**Snack**	HK$12.00	HK$7.00	HK$18.00	HK$6.00	HK$17.00
10						
11	**Your Spending on:**	**Total Spending**	***Description of cell reference***			
12	Monday lunch	HK$23.00	*One cell*			
13	Monday after lunch	HK$61.50	*Part of a column*			
14	Dinner of Tue, Wed and Thur	HK$96.00	*Part of a row*			
15	Entire week	HK$523.50	*Matrix of cells*			
16	Food on or over HK$30	HK$141.50	*Set of unrelated cells*			
17	Wednesday	HK$101.50	*Entire column*			
18	Dinner only	HK$164.50	*Entire row*			
19	Thursday and Friday	HK$200.50	*Multiple columns*			
20	Lunch, tea and dinner	HK$372.00	*Multiple rows*			

=SUM(B6)

Range References – Part of a Column

	A	B	C	D	E	F
1	**Referring to a Range of Cells**					
2	*This example shows how you can refer to a range of cells in formulas. The SUM() function is used to demonstrate this by calculating the spending of food from the table in various ways.*					
3						
4		**Monday**	**Tuesday**	**Wednesday**	**Thursday**	**Friday**
5	**Breakfast**	HK$18.00	HK$20.00	HK$18.00	HK$17.50	HK$18.00
6	**Lunch**	HK$23.00	HK$30.00	HK$22.00	HK$22.00	HK$21.50
7	**Tea**	HK$17.00	HK$19.00	HK$15.50	HK$20.00	HK$17.50
8	**Dinner**	HK$32.50	HK$43.00	HK$28.00	HK$25.00	HK$36.00
9	**Snack**	HK$12.00	HK$7.00	HK$18.00	HK$6.00	HK$17.00
10						
11	**Your Spending on:**	**Total Spending**	***Description of cell reference***			
12	Monday lunch	HK$23.00	*One cell*			
13	Monday after lunch	HK$61.50	*Part of a column*			
14	Dinner of Tue, Wed and Thur	HK$96.00	*Part of a row*			
15	Entire week	HK$523.50	*Matrix of cells*			
16	Food on or over HK$30	HK$141.50	*Set of unrelated cells*			
17	Wednesday	HK$101.50	*Entire column*			
18	Dinner only	HK$164.50	*Entire row*			
19	Thursday and Friday	HK$200.50	*Multiple columns*			
20	Lunch, tea and dinner	HK$372.00	*Multiple rows*			

=SUM(B7:B9)

Range References – Part of a Row

	A	B	C	D	E	F
1	**Referring to a Range of Cells**					
2	*This example shows how you can refer to a range of cells in formulas. The SUM() function is used to demonstrate this by calculating the spending of food from the table in various ways.*					
3						
4		**Monday**	**Tuesday**	**Wednesday**	**Thursday**	**Friday**
5	**Breakfast**	HK$18.00	HK$20.00	HK$18.00	HK$17.50	HK$18.00
6	**Lunch**	HK$23.00	HK$30.00	HK$22.00	HK$22.00	HK$21.50
7	**Tea**	HK$17.00	HK$19.00	HK$15.50	HK$20.00	HK$17.50
8	**Dinner**	HK$32.50	HK$43.00	HK$28.00	HK$25.00	HK$36.00
9	**Snack**	HK$12.00	HK$7.00	HK$18.00	HK$6.00	HK$17.00
10						
11	**Your Spending on:**	**Total Spending**	***Description of cell reference***			
12	Monday lunch	HK$23.00	*One cell*			
13	Monday after lunch	HK$61.50	*Part of a column*			
14	Dinner of Tue, Wed and Thur	HK$96.00	*Part of a row*			
15	Entire week	HK$523.50	*Matrix of cells*			
16	Food on or over HK$30	HK$141.50	*Set of unrelated cells*			
17	Wednesday	HK$101.50	*Entire column*			
18	Dinner only	HK$164.50	*Entire row*			
19	Thursday and Friday	HK$200.50	*Multiple columns*			
20	Lunch, tea and dinner	HK$372.00	*Multiple rows*			

`=SUM(C8:E8)`

Range References – Matrix of Cells

	A	B	C	D	E	F
1	**Referring to a Range of Cells**					
2	*This example shows how you can refer to a range of cells in formulas. The SUM() function is used to demonstrate this by calculating the spending of food from the table in various ways.*					
3						
4		**Monday**	**Tuesday**	**Wednesday**	**Thursday**	**Friday**
5	**Breakfast**	HK$18.00	HK$20.00	HK$18.00	HK$17.50	HK$18.00
6	**Lunch**	HK$23.00	HK$30.00	HK$22.00	HK$22.00	HK$21.50
7	**Tea**	HK$17.00	HK$19.00	HK$15.50	HK$20.00	HK$17.50
8	**Dinner**	HK$32.50	HK$43.00	HK$28.00	HK$25.00	HK$36.00
9	**Snack**	HK$12.00	HK$7.00	HK$18.00	HK$6.00	HK$17.00
10						
11	**Your Spending on:**	**Total Spending**	***Description of cell reference***			
12	Monday lunch	HK$23.00	*One cell*			
13	Monday after lunch	HK$61.50	*Part of a column*			
14	Dinner of Tue, Wed and Thur	HK$96.00	*Part of a row*			
15	Entire week	HK$523.50	*Matrix of cells*			
16	Food on or over HK$30	HK$141.50	*Set of unrelated cells*			
17	Wednesday	HK$101.50	*Entire column*			
18	Dinner only	HK$164.50	*Entire row*			
19	Thursday and Friday	HK$200.50	*Multiple columns*			
20	Lunch, tea and dinner	HK$372.00	*Multiple rows*			

```
=SUM(B5:F9)
```

Range References – Set of Unrelated Cells

	A	B	C	D	E	F
1	**Referring to a Range of Cells**					
2	*This example shows how you can refer to a range of cells in formulas. The SUM() function is used to demonstrate this by calculating the spending of food from the table in various ways.*					
3						
4		**Monday**	**Tuesday**	**Wednesday**	**Thursday**	**Friday**
5	**Breakfast**	HK$18.00	HK$20.00	HK$18.00	HK$17.50	HK$18.00
6	**Lunch**	HK$23.00	HK$30.00	HK$22.00	HK$22.00	HK$21.50
7	**Tea**	HK$17.00	HK$19.00	HK$15.50	HK$20.00	HK$17.50
8	**Dinner**	HK$32.50	HK$43.00	HK$28.00	HK$25.00	HK$36.00
9	**Snack**	HK$12.00	HK$7.00	HK$18.00	HK$6.00	HK$17.00
10						
11	**Your Spending on:**	**Total Spending**	***Description of cell reference***			
12	Monday lunch	HK$23.00	*One cell*			
13	Monday after lunch	HK$61.50	*Part of a column*			
14	Dinner of Tue, Wed and Thur	HK$96.00	*Part of a row*			
15	Entire week	HK$523.50	*Matrix of cells*			
16	Food on or over HK$30	HK$141.50	*Set of unrelated cells*			
17	Wednesday	HK$101.50	*Entire column*			
18	Dinner only	HK$164.50	*Entire row*			
19	Thursday and Friday	HK$200.50	*Multiple columns*			
20	Lunch, tea and dinner	HK$372.00	*Multiple rows*			

```
=SUM(B8,C6,C8,F8)
```

Range References – Entire Column

	A	B	C	D	E	F
1	**Referring to a Range of Cells**					
2	*This example shows how you can refer to a range of cells in formulas. The SUM() function is used to demonstrate this by calculating the spending of food from the table in various ways.*					
3						
4		**Monday**	**Tuesday**	**Wednesday**	**Thursday**	**Friday**
5	**Breakfast**	HK$18.00	HK$20.00	HK$18.00	HK$17.50	HK$18.00
6	**Lunch**	HK$23.00	HK$30.00	HK$22.00	HK$22.00	HK$21.50
7	**Tea**	HK$17.00	HK$19.00	HK$15.50	HK$20.00	HK$17.50
8	**Dinner**	HK$32.50	HK$43.00	HK$28.00	HK$25.00	HK$36.00
9	**Snack**	HK$12.00	HK$7.00	HK$18.00	HK$6.00	HK$17.00
10						
11	**Your Spending on:**	**Total Spending**	***Description of cell reference***			
12	Monday lunch	HK$23.00	*One cell*			
13	Monday after lunch	HK$61.50	*Part of a column*			
14	Dinner of Tue, Wed and Thur	HK$96.00	*Part of a row*			
15	Entire week	HK$523.50	*Matrix of cells*			
16	Food on or over HK$30	HK$141.50	*Set of unrelated cells*			
17	Wednesday	HK$101.50	*Entire column*			
18	Dinner only	HK$164.50	*Entire row*			
19	Thursday and Friday	HK$200.50	*Multiple columns*			
20	Lunch, tea and dinner	HK$372.00	*Multiple rows*			

Range References – Entire Row

	A	B	C	D	E	F
1	**Referring to a Range of Cells**					
2	*This example shows how you can refer to a range of cells in formulas. The SUM() function is used to demonstrate this by calculating the spending of food from the table in various ways.*					
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4		**Monday**	**Tuesday**	**Wednesday**	**Thursday**	**Friday**
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6	**Lunch**	HK$23.00	HK$30.00	HK$22.00	HK$22.00	HK$21.50
7	**Tea**	HK$17.00	HK$19.00	HK$15.50	HK$20.00	HK$17.50
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9	**Snack**	HK$12.00	HK$7.00	HK$18.00	HK$6.00	HK$17.00
10						
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16	Food on or over HK$30	HK$141.50	*Set of unrelated cells*			
17	Wednesday	HK$101.50	*Entire column*			
18	Dinner only	HK$164.50	*Entire row*			
19	Thursday and Friday	HK$200.50	*Multiple columns*			
20	Lunch, tea and dinner	HK$372.00	*Multiple rows*			

`=SUM(8:8)`

Range References – Multiple Columns

	A	B	C	D	E	F
1	**Referring to a Range of Cells**					
2	*This example shows how you can refer to a range of cells in formulas. The SUM() function is used to demonstrate this by calculating the spending of food from the table in various ways.*					
3						
4		**Monday**	**Tuesday**	**Wednesday**	**Thursday**	**Friday**
5	**Breakfast**	HK$18.00	HK$20.00	HK$18.00	HK$17.50	HK$18.00
6	**Lunch**	HK$23.00	HK$30.00	HK$22.00	HK$22.00	HK$21.50
7	**Tea**	HK$17.00	HK$19.00	HK$15.50	HK$20.00	HK$17.50
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9	**Snack**	HK$12.00	HK$7.00	HK$18.00	HK$6.00	HK$17.00
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16	Food on or over HK$30	HK$141.50	*Set of unrelated cells*			
17	Wednesday	HK$101.50	*Entire column*			
18	Dinner only	HK$164.50	*Entire row*			
19	Thursday and Friday	HK$200.50	*Multiple columns*			
20	Lunch, tea and dinner	HK$372.00	*Multiple rows*			

`=SUM(E:F)`

Range References – Multiple Rows

	A	B	C	D	E	F
1	**Referring to a Range of Cells**					
2	*This example shows how you can refer to a range of cells in formulas. The SUM() function is used to demonstrate this by calculating the spending of food from the table in various ways.*					
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6	**Lunch**	HK$23.00	HK$30.00	HK$22.00	HK$22.00	HK$21.50
7	**Tea**	HK$17.00	HK$19.00	HK$15.50	HK$20.00	HK$17.50
8	**Dinner**	HK$32.50	HK$43.00	HK$28.00	HK$25.00	HK$36.00
9	**Snack**	HK$12.00	HK$7.00	HK$18.00	HK$6.00	HK$17.00
10						
11	**Your Spending on:**	**Total Spending**	***Description of cell reference***			
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13	Monday after lunch	HK$61.50	*Part of a column*			
14	Dinner of Tue, Wed and Thur	HK$96.00	*Part of a row*			
15	Entire week	HK$523.50	*Matrix of cells*			
16	Food on or over HK$30	HK$141.50	*Set of unrelated cells*			
17	Wednesday	HK$101.50	*Entire column*			
18	Dinner only	HK$164.50	*Entire row*			
19	Thursday and Friday	HK$200.50	*Multiple columns*			
20	Lunch, tea and dinner	HK$372.00	*Multiple rows*			

`=SUM(6:8)`