Assignment 2

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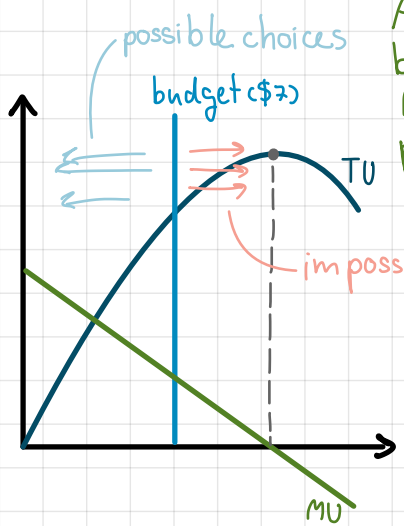
1. Belle is choosing ham (h) and cheese (c), which is assumed to be substitutable goods for her. Her total utility from each product is given in the table here.

Quantity	Total utility from ham (TU_h)	Total utility from cheese (TU_c)
1	15	12
2	26	21
3	35	27
4	41	32
5	45	35
6	48	37
7	49	38

(a) If Belle has $7 budget and both ham and cheese cost $1 each, how many units of ham and cheese she should purchase to maximize her utility? Explain your method clearly.

First, we calculate marginal utility (MU) from total utility from subtrack total utility from previous one.

Quantity	TU_h	MU_h	TU_c	MU_c
1	15	15	12	12
2	26	11	21	9
3	35	9	27	6
4	41	6	32	5
5	45	4	35	3
6	48	3	37	2
7	49	1	38	1



Secondly, to maximize her utility, there are 2 products and a budget constraint. We need to use the 4th scenario to calculate.

budget	Q	MU_h	MU_c	$\frac{MU_h}{P_h}$	$\frac{MU_c}{P_c}$	choice	remaining budget
7.	1	15	12	15	12	h_1 / C_1	7-1=6
	2	11	9	11	12	h_2 / C_1	6-1=5
	3	9	6	11	9	h_2 / C_2	5-1=4
	4	6	5	9	9	h_3 / C_2	4-1=3
	5	4	3	9	6	h_3 / C_3	3-1=2
	6	3	2	6	6	h_4 / C_3	2-1=1
	7	1	1	6	5	h_4 / C_4	1-1=0

MU_c/P_c still the same because Belle didn't consume 1st unit of cheese yet.

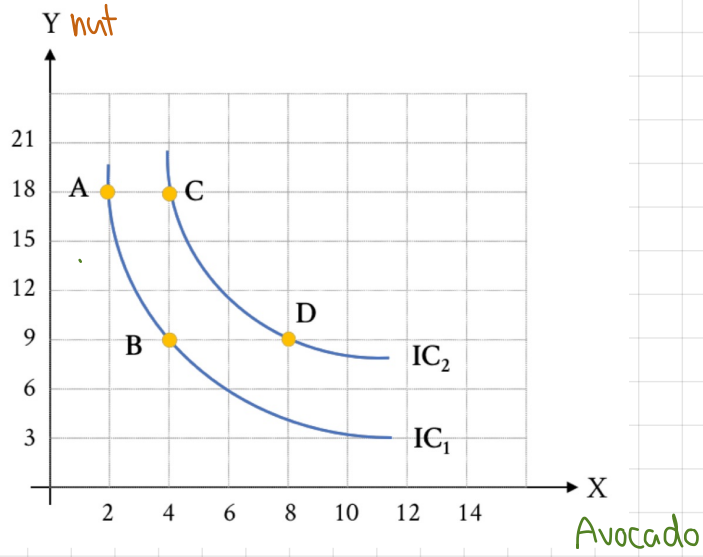
both unit give the same amount of utility = you can pick anyone.

∴ Belle have to buy 4 units of ham and 3 unit of cheese to maximize her utility

(b) Provide a clear explanation why her utility will not be maximized if the condition that you apply in part a. is not yet satisfied.

According to part a., Belle spent all the budget that she have already but utility of both products still not reach maximum point at MU=0 nor reaching dimishing point at MU<0. It means that it not possible to purchase at maximum utility point due to limited budget

2. A consumer finds that for him/her avocado (X) and nuts (Y) are substitutes. Assumed that this consumer yields 8 and 12 utils on IC1 and IC2 respectively, show your work and answer the following questions.



(a) Measured from point A to B, assumed Py is 10 baht per unit, how much Px must be to make you conclude that the consumer's equilibrium is on point B?

consumer utilities : $\frac{MU_x}{P_x} = \frac{MU_y}{P_y}$,

$MRS = \left|\frac{\Delta Y}{\Delta X}\right| = \frac{MU_x}{MU_y}$

$= \left|\frac{18-9}{2}\right| = \frac{9}{2} = \frac{4.5}{1}$

$MU_x = 4.5 \quad MU_y = 1$

$\frac{MU_x}{P_x} = \frac{MU_y}{P_y}$

$\frac{4.5}{P_x} = \frac{1}{10}$

$\therefore P_x = 45$ baht.

(b) Measured from point A to B, assumed Px is 180 baht per unit, how much budget does this consumer has to achieve the equilibrium on point B?

$\frac{MU_x}{P_x} = \frac{MU_y}{P_y}$

$\frac{9}{180} = \frac{2}{P_y}$

$P_y = \frac{360}{9} = 40$

$I = P_x \cdot x + P_y \cdot y$; point B = (4,9)

$I = 180(4) + 90(9)$

$= 720 + 360$

$= 1080$ baht. Ans

(c) Measured from point C to point D, how much is the average marginal utility per unit of avocado?

The average marginal utility per unit of avocado is 1 because when consumer give up 4 units of nuts they will loss 4 units of utilities
And when consumer consume 4 units of avocado they will gain 4 units of utilities more and IC, shift to IC_2.

(d) Show that this consumer's utility received from consuming avocado is in accordance with the law of diminishing marginal utility, using any essential information from any point. (But highly recommend that you consider all the points)

According to law of diminishing marginal utility, when people consume product and reach maximum total utility point, where marginal utility will be zero their utility will be decreasing. At point A, consumer consume 18 units of nuts so MU_n is very low but MU_a is very high that means to consume 1 unit of avocado consumer have to give up a lot of nuts.