EE211 Assignment #2 (Section 2 Semester 2/2020) Varis 6304641696

Instructions:

- Assigned date is Thursday the 4th, March 2021. **Due date is Thursday the 11th, March 2021 before 11.00 PM.**
- Submission is only received through BE Moodle platform as PDF file.
- Name your file as StudentID_nickname, such as 1234567489_Bo. **Please also comply to this instruction. It would be a lot easier to handle with your files.**
- There is no need to rewrite the question into your answer sheets. Indicating clearly question and item number is sufficient.
- Write your nickname and student ID on top-right corner of the first page.
- For those who do not have a digital device to write on, you can write your answers in sheets of paper, take pictures, convert them into a single PDF then submit in on Moodle.

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.

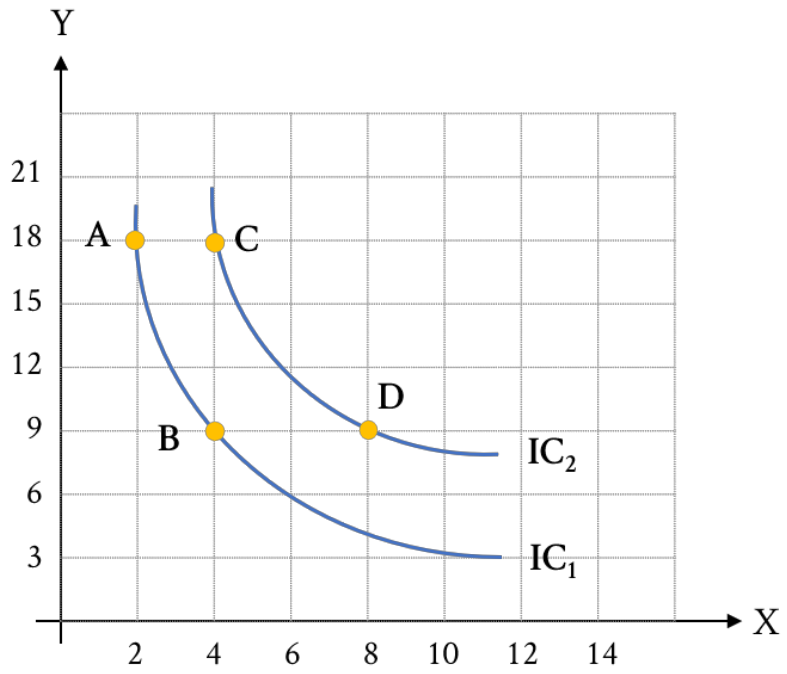
Quantity	Total utility from ham (TU_h)	Total utility from cheese (TU_c)
1	15	12
2	26	21
3	35	27
4	41	32
5	45	35
6	48	37
7	49	38

Answer the following questions.

(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.

(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.

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?

(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?

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

(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)

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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.

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Answer the following questions.

(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.

since price of ham and cheese is equal so we not need to find $\frac{MU_n}{P_n}$ or $\frac{MU_c}{P_c}$

Quantity	MUn	MUc	Choice	remaining budget
1	15	12	H_1, C_1	7-1=6
2	11	9	H_2, C_1	6-1=5
3	9	6	H_2, C_2	5-1=4
4	6	5	H_3, C_2	4-1=3
5	4	3	H_4, C_2	3-1=2
6	3	2	H_4, C_3	2-1=1
7	1	1	H_5, C_3	1-1=0

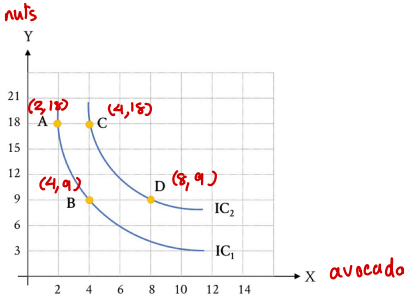
We choose goods by compare MU that gain each unit of ham and cheese.

∴ to maximize Belle utility she should purchase 4 quantity of ham and 3 of cheese.

(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.

Due to the law of Diminishing Marginal Utility cuts for consumers, each product that consumers the incremental utility for each product is reduced by 5.90. At some point, consumers become fuller, the more they will not be satisfied.

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.



$$\frac{18-9}{2-4} = \frac{9}{-2} = 4.5$$

$$180+2x = 90+4x$$

$$90 = 2x$$

$$45 = x$$

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

$$P_x = 45$$

(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?

From point A at (2,18) to point B at (4,9) consumer need to sacrifire a quantity of nuts to gain more 2 quantity of avocado

Find MRS $= \frac{\Delta y}{\Delta x} = \frac{18-9}{2-4} = \left|\frac{9}{2}\right| = 4.5$

At equalibrium point MRS $= \frac{P_x}{P_y} \rightarrow 4.5 = \frac{P_x}{10}$ $P_x = 45$

(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?

$MRS_{xy}(a \rightarrow b) = -4.5\frac{y}{x}$; if $P_x = 180$ baht per unit

$$\frac{\Delta y}{\Delta x} = \frac{P_x}{P_y}$$

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

$$P_y = \frac{180}{4.5} = 40 \text{ baht per unit}$$

∴ So budget on equilibrium on point B(4,9) = (4×180)+(9×40) = 1080

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

Find MRS C: (4, 18) → D: (8, 9) IC2 = 12

$MRS_{xy}(C \to d) = \frac{\Delta y}{\Delta x} = \frac{18-9}{4-8} = \left|\frac{9}{-4}\right| = 2.25$

we sacrifire units of nuts to get 4 unit of avocado

$4MU_x + 18MU_y = 12$ and $8MU_x + 9MU_y = 12$

If $MU_x = 1$, $MU_y = \frac{4}{9}$

$4(1) + 18(\frac{4}{9}) = 12$ $\quad$ $8(1) + 9(\frac{4}{9}) = 12$

$4 + 8 = 12$ $\quad$ $8 + 4 = 12$

∴ So average maginal utility per unit of avocado is 1

(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)

The Reducing Marginal Utilities Act says that with more consumed is the less utility that one unit of goods or services eventually gets, the consumer will eventually get the a incremental utility.

So from point A(2,18) to B(4, 9) consumer is consume a lot of nuts at point A so the marginal utility is too law. on the other hand at point A consumer conseme only a little amount of avocado so the marginal utility of avocado is high. These represent through the diclsion the consumer Is willing to sacrifice 9 amount of nuts to get 2 amount of avocado by more from point A to point B.

From point C (4, 18) to point D (8, 9) is the same as point A to B that the consumer willing to sacrifice large quantity of nuts that have large amount of consumtion (1) to gain the a less amount of avocado (4). Because the large quantity that consume is a less marginal utility and if consume a little amount of goods it will be high marginal utility.