PRACTICE QUESTIONS

Questions in this practice don't exhaust all materials that we have learned.
Any materials on the lecture slides are a fair game for midterm(and final) exam.

1. [Introduction] What are some assumptions of the standard economic model?

2. [Introduction] What are the three main aspects of how individuals might deviate from the standard models, according to DellaVigna(2009)? Give one example for each aspect.

3. [Heuristics] What is the difference between gambler's fallacy and hot hand fallacy? Can representativeness heuristics be used to explain both fallacies? If so, please explain how.

4. [Heuristics] Consider tosses of a fair coin for heads(H) or tails(T). Consider these two following sequences:

(a.) H-T-H-T-T-H
(b.) H-H-H-T-T-T
Mr.Stark evaluated that sequence (a.) was more likely than sequence (b.).

4.1) According to basic statistics principle, is Mr.Stark's evaluation correct?
4.2) Give a reasoning that might underlie Mr.Stark's evaluation.
4.3) With the reasoning that Mr.Stark used, will Mr.Stark predict the next drawing from sequence "H-T-T-T-T-T-T" to be head(H) or tail(T)? Based on your answer, explain why he might predict that way.

5. [Risk Preference: True/False/Explain]
Consider a choice between options A and B:
A: Coin toss that pays $100 if heads, and $0 if tails
B: $52 for sure
According to Expected Value (EV) Theory, a person should prefer the risky coin toss (Option A) over the sure thing (Option B)
Label this statement TRUE or FALSE, and briefly explain your answer.

6. [Risk Preference: Short answer]

Consider options A and B is question 5. What will be the reason for a person to prefer option A over B, under expected utility theory?

7. [Risk Preference: True/False/Explain]

"Expected utility theory can explain risk aversion for small-stakes gamble."

Label this statement TRUE or FALSE, and briefly explain your answer.

8. [Risk Preference: Long Answer]

Consider a simple model of loss aversion and the endowment effect.

Assume preferences described by

$$U(c, m|r) = U(c|r) + m$$
$$U(c|r) = u(c) + v(c|r)$$

Assume $r \in \{0,1\}$, where $r = 0$ means a person is unendowed, and $r = 1$ means a person is endowed with mug.

Assume $c \in \{0,1\}$, where $c = 0$ means a person doesn't buy, or keep mug, and $c = 1$ means a person buys, or keeps mug.

m is money.

$u(c)$ is intrinsic utility from consumption.

$$u(c) = \begin{cases} \mu & if\ c = 1 \\ 0 & if\ c = 0 \end{cases}$$

$v(c|r)$ is gain-loss utility.

$$v(c|r) = \begin{cases} \phi & if\ r = 0, c = 1 \\ -\lambda\phi & if\ r = 1, c = 0 \end{cases}$$

8.1) Given wealth w and price p, derive the condition under which Sellers who were given a mug will be willing to sell the mug.
8.2) Given wealth w and price p, derive the condition under which Buyers who were not given a mug will be willing to buy the mug.
8.3) What must the restriction on the value of λ be, to ensure that there is loss aversion? What is the reason for such restriction?
8.4) How does loss aversion help explain low trade volumn in Thaler's mug experiment?

9. [Risk Preference: True/False/Explain]

"The shape of value function of prospect theory in loss domain can help explain purchase of insurance policy."
Label this statement TRUE or FALSE, and briefly explain your answer.

10. [Time Preference: Short Answer]

Consider the following choice problems:
· Problem 1:
A: \$50 tomorrow
B: \$100 in 2 days
· Problem 2:
C : \$50 in 12 days
D : \$100 in 13 days

Suppose Amanda is present-biased, with $\beta < 1$, $\delta < 1$.
If we are told that from today's perspective, Amanda prefers A to B, $A \succ B$, what would we expect for his preferences (also today) over options C and D ? Explain.

11. [Time Preference: Long Answer]

Suppose you must complete a task within three days:

If complete on day 1, $u_1 = -3, u_2 = u_3 = 0$.

If complete on day 2, $u_2 = -5, u_1 = u_3 = 0$.

If complete on day 3, $u_3 = -8, u_1 = u_2 = 0$.

This is equivalent to having the immediate cost schedule:

$$c \equiv (3,\ 5,\ 8)$$

Consider a partial naivete with $(\beta, \hat{\beta}, \delta)$ preferences. Let $\delta = 1, \beta = \frac{1}{2}, \hat{\beta} = \frac{3}{4}$. That is, she weigh her future payoff in half for her current decision, but she think that she will weigh her payoff at 75% of the actual payoff for her decisions in the future.

11.1) On day 1, what is her belief about day-2 behavior?

11.2) What is her day-1 preferences?

11.3) On day 1, when does she plan to do the task?

11.4) When does she actually complete the task?

11.5) If instead, she is considering to do a task with immediate reward of $v \equiv (3,\ 5,\ 8)$. On day 1, when does she plan to do the task? And, when does she actually complete the task?