Group Projects & Presentations (10%)

Work as a group of 2-3 students to make 10-12 minutes presentation. Turn in the group and the topic of your project with about half page detail on Wednesday, March 4.

Here are some suggesting topics. But please also feel free to work on other topics of your interest.

1. **THM:** Hotel Industry is a big global business. Here you compare various data in term of profit and past-future prospect of the big chain hotel like Holiday Inn, Marriott, etc. Present them using the tools from descriptive statistic (chapter 2 and 3).

2. **THM:** Imagine you were an owner of a hotel. Design a survey (customer satisfaction, duration of stay, food satisfaction) in order to improve the quality of your service. What method of statistically inference you will use to conclude your data. How would you apply the result from the survey?

3. **THM:** Organizing a wedding ceremony is a major contribution to the hotel's income . Collecting a data of the wedding fees from various 5-stars hotels in Bangkok and present these numbers in the form of interval of confidence.

4. **THM:** Concerning about the number of Chinese tourists visiting Thailand after the boat accident in Phuket in 2018, use hypothesis testing to see whether the number of tourists was significantly decreased? Has the situation been improved (for 2019 and 2020) since the accident?

5. **THM:** Pricing the room is a tricky task for hotel marketers. Use the regression analysis to analyze the relationship between room rate and number of occupied rooms at a specific hotel from roughly the same period of time of the year.

6. **CS:** Empirically test the Central Limit Theorem & Law of large numbers

7. **CS:** Blackjack is a popular card game in United State. Compute the probability of each scenario of the game i.e. in what situation should you apply the splitting rule. (Splitting: If the first two cards of a hand have the same value, the player can split them into two hands)

8. For some people, hopes and dreams with regard to being a billionaire rely on winning a lottery ticket. Compare the expected payoff of the lottery games from different countries around the world.

9. The new US presidential election is around the corner. Each party (i.e. Republican, Democratic) is voting for their own delegation. Many institutions conducted a poll on the outcome of the election. Find out their methods of

conducting a poll. Could the predictions in the poll gone wrong? In this case, what are the possibilities that makes the prediction gone wrong?

10. Apartment complex is a booming business in Bangkok. Find the prices per square meters of these complexes over the various main areas (i.e. Silom, Sukhumvit or Sathon road, etc). What is the distribution of these prices? What are the confidence intervals of the prices in each area?

11. Air pollution has been in the news in the last few years. Use the past data (of Jan. month) to test whether the amount of PM2.5 this year is unusually high, say compare to the older years before it becomes a big concern? (Hypothesis testing)