# Practical 5 – CP2403 – Due 21st Dec 2019 – 5pm

Ensure you add you name to the top of the jupyter notebookbefore submission

**Part 1** – Download the Jupyter notebook for Week 5 and run the notebook

**Part 2**

Ensure you have completed Prac 1, Prac 2 and Prac 3.

Download the Jupyter Notebook Template for Prac 5 from LearnJCU. Complete the template & run the code. Refer to Module 5 Lecture Jupyter Notebook for help

Complete the questions in Part 3 as you work on the Prac 5 template

**a**

**Part 3**

**Scenario 1**

We want to find out if the mean number of beers consumed per-month (NUMBEERMO\_EST) is equal for individuals with and without dysthymia (DYSLIFE)

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| **Step 1: hypothesis** |
| Null hypothesis (Ho): MEAN NUMBEERMO\_EST = DYSLIFE |
| Alternative (Ha) hypothesis: MEAN NUMBEERMO\_EST !=(NOT EQUAL) DYSLIFE |
| **Step 2: Data Selection** |
| **Adults Age Between 26 until 50** |
| **Step 3: Assess the evidence (ANOVA)** |
| F-statistics: 20.23 |
| Prob(F-statistics):6.99e-06 |
| Mean values:  A screenshot of a cell phone  Description automatically generated |
| STD values:  A screenshot of a cell phone  Description automatically generated |
| **Step 4: Draw Conclusion** |
| Reject There is no difference in the mean number of Beer Consumed between young people with and without dysthymia |
| **Box Plot of beers consumed per-month (NUMBEERMO\_EST) for individuals with and without dysthymia (DYSLIFE)** |
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**Scenario 2**

We want to find out if the mean number of beers consumed per-month (NUMBEERMO\_EST) is equal for adults from different ethnic group

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| **Step 1: hypothesis** |
| Null hypothesis (Ho): NUMBEERMO\_EST = ETHRACE2A |
| Alternative (Ha) hypothesis: NUMBEERMO\_EST !=(NOTEQUAL) ETHRACE2A |
| **Step 2: Data Selection** |
| **Adults Age Between 26 until 50** |
| **Step 3: Assess the evidence (ANOVA)** |
| F-statistics: 8,261 |
| Prob(F-statistics):1.21e-06 |
| Mean values:  A screenshot of a cell phone  Description automatically generated |
| STD values: |
| **Step 4: Draw Conclusion** |
| Reject,There is no difference in the mean number of Beer Consumed between adults with Ethnicity |
| **Post-hoc analysis results** |
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| **Post-hoc analysis conclusion** |
| So, we can say that adult from NatAm ethnicity consume beer significantly more than black, Hispanic and Asian ethnicity. |
| **Box Plot of beers consumed per-month (NUMBEERMO\_EST) for individuals from different ethnicity background** |
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