# Practical 9 – CP2403 – Due 14 May 2018 – 5pm

Ensure you add you name to the top of the Jupyter notebook before submission

**Part 1** – Download the Jupyter notebook for Module 9 and run the notebook

**Part 2**

Download the Jupyter Notebook Template for Prac 9 from LearnJCU. Complete the template & run the code. Refer to Module 9 Lecture Jupyter Notebook for help

Complete the questions in Part 3 as you work on the Prac 9 template

**Part 3**

**Scenario 1**

Beer dependency (S2BQ1B1 - Categorical Explanatory variable) and number of beers consumed in a month (NUMBEERMO\_EST - Quantitative Response variable)

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| **1: Regression Analysis result** |
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| **2: Regression equation** |
| Number Beer Consume per month = 25.5414 + 31.3361\*S2BQ1B1 |
| **3. Conclusion** |
| If Someone addicted to Beer, S2BQ1B1 = 1   * No of Beer consumed = 25.5414 + 31.3361\*(1) =56.8775   If someone not addicted to Beer, S2BQ1B1 = 0   * No of Beer Consumed = 25.5414+31.3361(0) =25.51414   So, adult around 26 – 50 who are addicted to beer will consume about 31 more beer than those who are not addicted. |
| **4. Bar Chart** |
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**Scenario 2**

**Perform Logistical Regression analysis between beer dependency (y=S2BQ1B1) and general anxiety (x=GENAXLIFE).**

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| **1: Regression Analysis results** |
| S2BQ1B1= -2.8998 + 0.8948 \* GENAXLIFE |
| **2: Lower Confidence Interval, Upper Confidence Interval, Odds Ratio** |
| CI = 1.84-3.24 |
| **3. Conclusion** |
| Adult age between 26 – 50 with general anxiety are 2.45 times more like to be beer consumer dependent compare to adult without general anxiety. |

**Scenario 3**

**Perform Logistical Regression analysis between beer dependency (y=S2BQ1B1) and general anxiety (x1=GENAXLIFE) and minor depression (x2=DYSLIFE).**

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| **1: Regression Analysis results** |
| S2BQ1B1 = -2.9099 + 0.8070(GENAXLIFE)+0.2638(DYSLIFE) |
| **2: Lower Confidence Interval, Upper Confidence Interval, Odds Ratio** |
|  |
| **3. Conclusion** |
| Adult Age between 26 – 50 with general anxiety are 2.24 times more like to be beer consume dependent compare to adult without general anxiety, after controlling for minor depression.  Adult Age between 26 – 50 with minor depression are 1.30 times more like to be beer consume dependent compare to adult without minor depression, after controlling for general anxiety. |

**Scenario 4**

**Perform Logistical Regression analysis between beer dependency (y=S2BQ1B1) and panic disorder (x=PANIC).**

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| **1: Regression Analysis results** |
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| **2: Lower Confidence Interval, Upper Confidence Interval, Odds Ratio** |
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| **3. Conclusion** |
| Adult age between 26 – 50 with panic disorder are 1.68 times more likely to be beer dependent compare to adult people without panic disorder. |

**Scenario 5**

**Perform Logistical Regression analysis between beer dependency (y=S2BQ1B1) and panic disorder (x1=PANIC) and minor depression (x2=DYSLIFE).**

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| **1: Regression Analysis results** |
|  |
| **2: Lower Confidence Interval, Upper Confidence Interval, Odds Ratio** |
|  |
| **3. Conclusion** |
| Adult age between 26 – 50 with minor depression are 1.54 times more like to be beer dependent compare to adult without minor depression, after controlling panic disorder.  Adult age between 26 – 50 with panic disorder are 1.55 times more like to be beer dependent compare to adult without panic disorder, after controlling minor depression. |