CP2403 – Project – Part 1 – Answer Template

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1. Create a box plot to show the distribution of number of dengue cases in both San Juan (sj) or Iquitos (iq) city.

What is conclusion can you draw from the box plot?

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| The box plot shows the huge different in the distribution of number of dengue cases in San Juan and Iquitos city. In totally, there are more number of dengue cases that occurred in San Juan than the number of cases occurred in Iquitos. The average number of dengue cases each week in San Juan is 34 cases which is more than 5 times compare with the 7.6 cases in Iquitos. There are around 25% of weeks in San Juan have from 50 and upper dengue cases and the highest number of cases is more than 400 cases. Most of weeks in Iquitos have lower than 30 dengue cases. |

1. For either San Juan (sj) or Iquitos (iq) city, create a histogram to show the distribution of number of dengue cases.

What is conclusion can you draw from the histogram?

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| The histogram has unimodal shape with the peak is nearly 250 weeks which contains 0 to 10 dengue cases. The histogram is also asymmetric and skewed right. The week have from 0 to 50 dengue cases take the highest distribution in the total number of dengue cases in San Juan city with nearly 50% of total cases. The number of weeks that have more than 100 dengue cases distribute the lowest percentage of total cases. But in San Juan, there are some weeks that become an dengue pandemic and contains more than 300 cases each week. |

1. For either San Juan (sj) or Iquitos (iq) city, create a line chart to show the number of dengue cases for each week.

What is conclusion can you draw from the line chart?

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| The line chart shows the number of dengue cases each weak in San Juan from 1990 to 2008.  Through the line chart, it is easy to recognize that in San Juan City, the dengue cases in each week have the huge difference. Most of weeks contains less than 100 dengue cases. In the others hand, there are some weeks that contains a huge number of dengue cases which can be reach more than 400 cases. The chart also show that there are an big dengue pandemic each year in San Juan, it usually occurred in 1 week and make the number of dengue cases increased dramatically. |

1. For either San Juan (sj) or Iquitos (iq) city, create a bubble chart to show the relationship between average temperature (station\_avg\_temp\_c), total precipitation (station\_precip\_mm) and number of dengue cases. Use number of dengue cases as the bubble size.

What is conclusion can you draw from the bubble chart?

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| The bubble chart shows the increasing trend in the relationship between station average temperature with number of dengue cases and the negative correlation between total precipitation with number of dengue cases. From 24 °C to 30 °C, the higher temperature, the more number of dengue cases. With the bubble chart, it is very easy to recognize that weeks have the temperature around 28-29 °C will contains the highest number of dengue cases. For the total precipitation from 0mm to 160mm, the lower of precipitation, the higher number of dengue cases. The number of dengue cases dispose in the weeks have the total precipitation from 0mm to 80mm and the highest number of dengue cases are occurred when total precipitation is below 40mm. In conclusion, weeks have the low precipitation and average temperature around 28 °C will have the big number of dengue cases. |