**CP2403 – Project – Part 1 – 10% - Answer Template**

**Data Exploration, Management & Visualization**

**Due: End of Week 6 (5pm, Friday, 3 April 2020)**

First Name:

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1. Box plot

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| categorical variable: RecInd (Record Indicator)  quantitative variable: R\_TEMP(Reported Temperature) |

What is conclusion can you draw from the box plot?

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| Based on the box plot, there are two types of data on record indicator for reported temperature, observed data and interpolated to a standard depth. Both have different values for median, 9.5 for observed data and ~8.8 for interpolated. Both have similar maximum and minimum value, which is near 12. But both data do not have any outliers. We can draw conclusion that observed data and approximation data are not too different and both cn be used for data analysis. |

1. Histogram

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| quantitative variable: R\_TEMP (Reported Temperature) |

What is conclusion can you draw from the histogram?

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| From this histogram, it can be understood that first 5 casts of data have mostly 10 degree Celsius. It can be concluded as most of the water has 10 degree Celsius. The least occurrence is 7-degree Celsius. The Histogram is not symmetrical. The shape of histogram is skewed left. |

1. Line chart

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| quantitative variable: quantitative variable: R\_SIGMA (Reported Potential Density of Water)  quantitative variable: R\_Depth (Reported Depth) |

What is conclusion can you draw from the line chart?

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| From this line chart, it can be understood that the deeper the water level, the more density there will be in the water. When the depth of water is at 1200 meters, the density is between 27 and 27.5 The chart also has positive relationship. |

1. Bubble.

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| quantitative variable 1: R\_SIGMA  quantitative variable 2: R\_PRES (Pressure in decibars)  quantitative variable 3: R\_Depth |

What is conclusion can you draw from the bubble chart?

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| It can be taken as that the deeper the water level, there’ll be higher pressure and density. There is also positive correlation in the bubble chart. So, we can conclude that both pressure and density is affected by the change in depth. |

1. Selected Chart.

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| Selected Chart: Scatter Plot  Variables used  Variable 1: R\_Depth  Variable 2: R\_SALINITY (reported Salinity) |

What is conclusion can you draw from your selected chart?

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| Chart, scatter chart  Description automatically generated  From this scatterplot, it can be seen that the deeper the water level, the saltier the water become. The plot is positive correlation and weak relationship. We can conclude that salinity is affected by the depth of the water level. |