WORKSHEET 3

1.

Using the CO2 dataset, create a histogram of the carbon dioxide uptake rates in grass plants.

Include a main title and an x-axis label. Histogram bars should be colored. We looked at three distribution shapes in lecture, left-skewed, right-skewed and symmetrical. The histogram for 'uptake' histogram fits none of these. What shape is your histogram? Ask your TA.

2

a) Construct a pie chart to display the following data. Use suitable colors, labels and a heading.

Deaths in 1995 and the cause of death (in thousands)
Heart diseases 738
Cancer 538
Stroke 158
Pulmonary diseases 103
Accidents 93
Others 682
All causes 2,312

b) Is this a good way to display the data? Give reasons.

3.

Like histograms, stemplots (also called stem and leaf plots) are used or charting quantitative data. Stemplots are used for charting relatively small datasets whereas histograms are preferred for larger datasets.. The slide below shows you how to construct a stemplot.

Stemplots

Original data: 9, 9, 22, 32, 33, 39, 39, 42, 49, 52, 58, 70

How to make a stemplot:

1) **Separate each observation into a stem, consisting of all except the rightmost digit, and a leaf, which is that remaining final digit. Stems may have as many digits as needed, but each leaf contains only a single digit.**

2) **Write the stems in a vertical column with the smallest value at the top, and draw a vertical line at the right of this column.**

3) **Write each leaf in the row to the right of its stem, in increasing order out from the stem.**

STEM	LEAVES
0	9 9
1	
2	2
3	2 3 9 9
4	2 9
5	2 8
6	
7	0

Questions continue ---------→>>>>>>>>>>>>>>>>

a) Search in RStudio to find the correct function to use for constructing a stemplot, and study the syntax.

b) In RStudio, construct a stemplot for the data in the above example:

9, 9, 22, 32, 33, 39, 39, 42, 49, 52, 58, 70

c) Check that your stemplot matches the one shown above. If you used the default, your stemplot will be incorrect. Go back to the syntax and look at 'scale'.
d) Correct your stemplot using the 'scale' argument.
e) Ask your TA how stemplots preserve data. Do histograms also preserve data?

4.

Using the state.area data:

a) Find the area of the smallest state (in sq miles)
b) Find the area of the largest state (in sq miles)
c) Find the mean area of all states.
d) Find the median area.
e) Find the difference between the largest and smallest state areas

5.

a) Create a vector containing the following elements: 2,3,3,3,4,2,5,NA, 10.

Using R, find the mean

b) Create a vector containing the following elements: 2,2,3,3,3,4,2,5,10.

Using R, find the mode

END WORKSHEET 3