Write a report in one word file together with R code for each problem.

This project will carry 20% of the total credit.

Each problem will carry 1/2 percentage point.

Read the Final.csv data from D2L to R and denote this data by d1.

1. How many observations (number of rows) and Variables (columns) in the d1 data?
2. How many variables are numerical/continuous and how many are them are integers/discrete?
3. Delete ID variable from the d1 data
4. Report the number of missing values for the variables MOFB, YOB, and AOR.
5. Create d2 data from d1 data by selecting variables RMOB, WI, RCA, Religion, Region, AOR, HEL, DOBCMC, DOFBCMC, MTFBI, RW, RH, and RBMI variables.
6. Delete rows that have missing values for any variable in the d2 data and denote this new data by d3.
7. Find the summary statistics of the d3 data.
8. Add a new variable in the d3 data by finding the average of DOBCMC, DOFBCMC and MTFBI.
9. Create a new variable named “Newreligion” from Religion Variable by recoding ‘1’ as ‘1’ and rest as ‘2’.
10. Find the frequency table for the Region variable
11. Find the joint frequency table for the variables Region and Religion.
12. Find the mean values of AOR variable corresponding to each label of Region variable.
13. Find the variances of AOR variable corresponding to each label of Religion variable.
14. Draw a boxplot for the MTFBI variable.
15. Draw a histogram for the RCA variable.
16. Draw a bar chart for the Region variable
17. Draw a pie chart for the Region variable
18. Put above four figures (question 14 to question17) in a 2 by 2 grid
19. Split the d3 data by WI variable and denote it by d4
20. For each split data in d4 write a single loop to find the mean, minimum, maximum, standard deviation of MTFBI.
21. Conduct a one sample mean test of hypothesis to check whether MTFBI has a mean of 30 or not.
22. Conduct a normality test of the MTFBI variable
23. Check the equality of mean for MTFBI variable corresponding to two labels of “Newreligion” variable.
24. Find the correlation matrix of the variables DOBCMC, DOFBCMC, AOR, MTFBI, RW, RH and RBMI from the d3 data.
25. Fit a simple linear regression model by considering MTFBI as dependent variable and AOR as independent variable.
26. Fit a multiple regression model by considering MTFBI as dependent variable and AOR, RW, Region as independent variables
27. For five values of x=1:5, y=2:6, and z=3:7, compute 5 values for .
28. Solve the following system of linear equations:

70x+100y+40z=900; 120x+450y+340z=1000; 230x+230y+1230z=3000

1. Find the inverse of the following matrix: A=
2. Suppose b=. Then find . Here A’ means A transpose.
3. Draw the graph for the function f(x)=
4. Draw the graph for the step functions Consider the continuous function
5. Find the areas of 10 circles, which have radii 10:19. The Area of a circle is given .
6. Find .
7. Compute
8. Compute the integral .
9. Compute the integral .
10. For five values of x=1:5, y=2:6, and z=3:7, compute 5 values for .
11. Solve the equation .
12. If $40 is invested today for 50 years with interest rate .10, the find the total amount of money in 50 years. The formula is p\*(1+r)^t. p=40, t=50, and r=.10.