Choice of package (dplyr): Again, I have decided to use the dplyr package again as it is very helpful in data manipulation and calculations. I have the used summarise and group\_by functions again.

Reading the data: I have read the data with the read.csv("sales\_ug.csv"), this function allows me to obtain the data and place it into a data frame named sales\_data for further calculations.

Calculating the different levels of promotion: Here I used the sales\_data from the data frame made out of the csv file and have grouped (group\_by(promo\_type\_1, promo\_bin\_1) from the dplyr package) the data by promo\_type\_1 and promo\_bin\_1 this would allow me to calculate the total sales for different combinations of promotion types and rates. Then I have used the summarise() function from the dplyr package again to calculate the sales from each promotion. The total\_sales = sum(sales) creates a new column for total sales and sums the sales of each promotion combination made by the group\_by function before. This will allow me to see each promotion type, its binned promotion rate, and the sales of each promo type. The result of the summarization, which includes the total sales for different combinations of promotion types and rates, is stored in a data frame named promo\_sales.

Printing the data: Again I have used the print() function to print out the data frame promo\_sales to further analyse the data produced by the code.