*Note:* It seems that Veriguide does not support uploading multiple files for one assignment. To combine 2 code files, this word file contains the plain text of the code for Q1 and Q2. This word file as well as the SQL file and R file will also be uploaded to blackboard. Thank you and sorry for any inconvenience caused.

Q1

CREATE TABLE `Table1`(

    `ID` int,

    `Air Pressure (9 am)` VARCHAR(4),

    `Temperature (9 am)` VARCHAR(4),

    `Rain (3 pm)` int

);

INSERT INTO `Table1` VALUES(1,'High','Cold',1);

INSERT INTO `Table1` VALUES(2,'Low','Warm',1);

INSERT INTO `Table1` VALUES(3,'High','Warm',0);

INSERT INTO `Table1` VALUES(4,'High','Warm',0);

INSERT INTO `Table1` VALUES(5,'Low','Warm',1);

INSERT INTO `Table1` VALUES(6,'High','Warm',0);

INSERT INTO `Table1` VALUES(7,'High','Warm',0);

INSERT INTO `Table1` VALUES(8,'High','Warm',0);

INSERT INTO `Table1` VALUES(9,'High','Warm',0);

INSERT INTO `Table1` VALUES(10,'Low','Cold',1);

INSERT INTO `Table1` VALUES(11,'Low','Warm',1);

INSERT INTO `Table1` VALUES(12,'High','Warm',0);

INSERT INTO `Table1` VALUES(13,'High','Warm',0);

INSERT INTO `Table1` VALUES(14,'Low','Cold',1);

INSERT INTO `Table1` VALUES(15,'Low','Warm',1);

INSERT INTO `Table1` VALUES(16,'High','Warm',0);

INSERT INTO `Table1` VALUES(17,'Low','Warm',1);

INSERT INTO `Table1` VALUES(18,'Low','Cold',1);

INSERT INTO `Table1` VALUES(19,'High','Warm',0);

INSERT INTO `Table1` VALUES(20,'High','Cold',1);

SELECT \* FROM `Table1`;

SELECT ID FROM Table1

WHERE `Air Pressure (9 am)` = 'High' AND `Temperature (9 am)` = 'Cold';

CREATE TABLE `Table2`(

    `ID` int,

    `Wind Direction (9 am)` float,

    `Wind Speed (9 am)` float,

    `Rain Yesterday` int,

    `Rain (3 pm)` int

);

INSERT INTO `Table2` VALUES(1, 73.40, 10.65, 1, 1);

INSERT INTO `Table2` VALUES(2, 179.50, 7.02, 0, 1);

INSERT INTO `Table2` VALUES(5, 166.40, 3.85, 0, 1);

INSERT INTO `Table2` VALUES(10, 211.80, 2.01, 0, 1);

INSERT INTO `Table2` VALUES(11, 100.20, 2.13, 0, 1);

INSERT INTO `Table2` VALUES(14, 187.30, 11.81, 1, 1);

INSERT INTO `Table2` VALUES(15, 184.50, 6.87, 0, 1);

INSERT INTO `Table2` VALUES(17, 179.00, 5.26, 0, 1);

INSERT INTO `Table2` VALUES(18, 150.50, 2.33, 1, 1);

INSERT INTO `Table2` VALUES(20, 151.00, 3.31, 0, 1);

SELECT \* FROM `Table2`;

SELECT \*

FROM Table1

NATURAL JOIN Table2

SELECT \*

FROM Table1

NATURAL JOIN Table2

WHERE `Wind Direction (9 am)` < 185 AND `Wind Speed (9 am)` > 3 AND `Temperature (9 am)` = 'Cold';

Q2:

data <- read.csv("C:\\Users\\brian\\Documents\\CUHK\\SEEM2460\\Asm2\\IceCreamData.csv")

head(data)

# Linear Regression

lm\_model <- lm(Revenue ~ Temperature, data = data)

summary(lm\_model)

# Plotting

plot(data$Temperature, data$Revenue, main = "Revenue vs Temperature", xlab = "Temperature", ylab = "Revenue")

abline(lm\_model, col = "red")

# Show coefficients

coefficients(lm\_model)

# Predict

test\_temperature <- 26.6

predicted\_revenue <- predict(lm\_model, newdata = data.frame(Temperature = test\_temperature))

predicted\_revenue

# OR

predicted\_revenue\_2 = 21.44363\*test\_temperature+44.83127

predicted\_revenue\_2