Technical Skills Course – SAS Project

Task #1: Copy the code within Titanic_SAS_Code.txt and paste it into a new SAS program. Run the program and ensure you are getting the dataset you are expecting.

Task #2: Perform exploratory analysis

- How many males and females are in this sample?

- How many people are in each class?

- What is the average age?

- What is the minimum, maximum, average, and standard deviation of the fares?

- What percentage of males and females survived?

- What percentage of people survived by class?

- Perform correlation analysis between various variables.

Task 3: Get your data ready for a regression model to predict survival. Feel free to create new variables that you feel are important. A lot of ages are missing, how do you want to handle that? Drop columns that you feel aren't useful. Map the "Embarked" column to their full port names. (i.e. C = Cherbourg, Q = Queenstown, S= Southhampton)

Task 4: Create a regression model to predict if a person onboarding the Titanic will survive or not. Your response variable is "Survived" and use as many independent variables as you feel is necessary. Note: if you want to use categorical variables such as Pclass and Sex, you need to translate them into numerical values before using them as independent variables in PROC REG.(e.g. Male = 1, Female = 2)

Task 5: Pretend you were selling life insurance, with a $100,000 payout, right before the Titanic left. Five people were interested in buying your life insurance. Below is their data. Predict if they will survive or not using your regression model. Decide which ones out of the five, you are willing to sell the insurance to if the premium is $25,000 per person. (Hint: $100,000 x probability of death < $25,000)

Pclass	Name	Sex	Age	SibSp	Parch	Fare	Cabin	Embarked
1	Andrew	female	30	0	0	106		C
3	Sarah	male	22	0	0	7		C
3	Kate	female		0	0	8		Q
1	Tina	female	52	1	0	78	D20	C
3	Leo	male	30	0	0	8		S

Task 6: You know the true outcomes of the five people who bought your life insurance. If they perished, you need to pay their beneficiary $100,000. If they survived, you get to keep the premium (which was $25,000 per person). Calculate your profit or loss in total for people you decided to insure. *Leo was the only one who perished out of the five people who bought your life insurance.*