**DECSCI 101 Heuristics practicum:**

**Predicting who survived the sinking of the Titanic**

There is a list of 1309 passengers of the Titanic with the following variables:

* name: Passenger name
* pclass: Passenger class (1 = 1st; 2 = 2nd; 3 = 3rd)
* male: Gender (1 = male; 2 = female)
* age: Age in years; please note this is missing for some passengers
* sibsp: Number of siblings/spouses aboard
* parch: Number of parents/children aboard
* fare: Passenger fare
* embarked: Port of embarkation (C = Cherbourg; Q = Queenstown; S = Southhampton); please note this is missing for a couple of passengers
* survived: Survival (1 = yes; 0 = no)

Half of the dataset will be used as the Training Data, and the other half will be used as the Test Data. Your task is to use the Training Data to develop algorithms that can predict whether someone survived the sinking of the Titanic in novel Test Data.

You can develop your algorithms in the coding language of your choice, or use Excel. If working in Excel, I suggest looking up information about Excel’s calculation operators and logical functions (IF, IFS, AND, OR, XOR, NOT).

In the “Prediction Example” column, I have included a simple example of an algorithm that predicts that all 1st class passengers will survive while all non-1st class passengers will not. The “Correct?” column checks my algorithm’s accuracy, and the average of the “Correct?” column (cell J657) gives my overall accuracy for this example.

You will develop algorithms of varying complexity (number of variables used).   
Once you have your algorithms locked in, I will provide you with the Test Data, so you can see how predictive your algorithms are.

Please note that this full dataset and information challenge are freely available online. Looking up the dataset or other people’s algorithms is cheating, so don’t do it.

Group name & members :

|  |  |  |  |
| --- | --- | --- | --- |
| N variables used | Algorithm | Descriptive acc (% correct Train) | Predictive acc (% correct Test) |
| 1 |  |  |  |
| 2 |  |  |  |
| 3 |  |  |  |
| 4 |  |  |  |
| 5 |  |  |  |