

IST3110 - Week 2 Lab Session 2

1. Create a vector named `vec`, with length 24 whose elements are drawn from a uniform distribution with the range [1,5] (**Hint:** `runif()` function is used to draw samples from uniform distribution use help documentation for `runif`, if necessary).
2. Create a matrix `mat` from the vector `vec` with 6 rows and 4 columns. Transform the vector to matrix row by row (First 4 elements of the vector will produce the first row of the matrix, next 4 elements of the vector will produce the second row of the matrix etc)
3. Select 3rd and 5th row and 2nd and 4th column of the `mat` matrix (**Hint:** Resulting matrix should be 2x2 dimensions).

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4. You are given two datasets called `mammo.txt` and `student_performance.txt`

Import both of the datasets into R to objects called `mammo` and `student_performance` and confirm that you imported them correctly.

5. Select columns `Age` and `Severity` from the `mammo` dataset and assign this to `mammo_small`.
6. Find average age for the
 - ▶ entire `mammo` dataset.
 - ▶ patients with severity.
 - ▶ patients without severity.

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7.
 - ▶ Create an empty list called `student_performance_list` with the `list()` function.
 - ▶ Add `gender` variable from `student_performance` dataframe to `student_performance_list` with the `$` operator.
 - ▶ Add `math_score` variable from `student_performance` dataframe to `student_performance_list` with the `$` operator.
 - ▶ Calculate frequency table for `gender` variable from `student_performance` dataframe with the `table()` function and add it to the `student_performance_list` with the name of `gender_summary`.
 - ▶ Calculate mean score for `math_score` variable from `student_performance` dataframe with the `mean()` function and add it to the `student_performance_list` with the name of `math_mean`.
 - ▶ Plot a histogram of `math_score` variable from `student_performance` dataframe with the `hist()` function and add it to the `student_performance_list` with the name of `math_mean`.