R Problems

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Variables and Vectors

1. Create a variable named 'a' with a value of 1 and print the result

2. Create a *numeric vector* named b with elements equal to 1, 2, and 3.

3. Create a *numeric vector* named c with elements equal to (1, 2, 3, 4, 5, 6, 7, 8, 9, 10)

4. Create *character vectors* containing (a) the names of the students in your cohort and (b) the values X1, X2, X3, and X4

Matrices

1. Create a 3x3 matrix with '1s' along its diagonal (this is called the *identity* matrix)

2. Create an empty 2x3 matrix

3. Use the functions 'matrix' and 'seq' to create the following matrix:

```
##      [,1] [,2] [,3]
## [1,]    1    3    5
## [2,]    2    4    6
```

4. Use the function 'rep' and 'cbind' to create the following matrix:

```
##       b
## [1,] 1 4
## [2,] 2 4
## [3,] 3 4
```

5. Add a column with the values '10' and '11' to matrix A

6. Add a row with values '10', '11', and '12' to matrix A

7. Subset the first two rows of matrix B

8. Replace the element in row 1 column 2 with '400' then replace '400 with 'NA'

Dataframes

1. Create a dataframe with the following information about the PowerPuff Girls:

```
##   SSN      Name Age Gender
## 1 204   Blossom   7      0
## 2 401 Buttercup   8      0
## 3 101   Bubbles   6      0
## 4 666  MojoJojo  43      1
## 5 777 Professor  56      1
```

2. Determine the number of characters

3. Calculate the number of males and females

4. What is the average age of the characters? What about the mean age of just the females?