Problem Set 1 - Introduction to Julia

Gabriel Petrini, Prof. Tyler Ransom

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Contents

1 Directions

Directions: Answer all questions. Each student must turn in their own copy, but you may work in groups. Clearly label all answers. Show all of your code. Turn in jl-file(s), output files and writeup via GitHub. Your writeup may simply consist of comments in jl-file(s). If applicable, put the names of all group members at the top of your writeup or jl-file.

```
using Random, Distributions, FreqTables, Statistics
using LinearAlgebra
using JLD2, CSV, DataFrames

Random.seed!(1234)
```

```
MersenneTwister(UInt32[0x000004d2], Random.DSFMT.DSFMT_state(Int32[-1393240018, 1073611148, 45497
```

2 Initializing variables and practice with basic matrix operations

1. Create the following four matrices of random numbers, *setting the seed to* '1234'. Name the matrices and set the dimensions as noted

   (a) $A_{10\times7}$ - random numbers distributed $U[-5, 10]$

```
A = rand(Uniform(-5,10), 10, 7)
```

1. $B_{10\times7}$ - random numbers distributed $N(-2, 15)$ [st dev is 15]
2. $C_{5\times7}$ - the first 5 rows and first 5 columns of A and the last two columns and first 5 rows of B
3. $D_{10\times7}$ - where $D_{i,j} = A_{i,j}$ if $A_{i,j} \leq 0$, or 0 otherwise