

Charles Valentine

Homework 2

9/16/2016

Problem 1

- a) See code
- b) See code
- c) Top 3 Genes with the largest mean expression in ALL patients:

```
[1] "GB DEF = Chromosome 1q subtelomeric sequence D1S553"  
[2] "37 kD laminin receptor precursor/p40 ribosome associated protein gene"  
[3] "RPS14 gene (ribosomal protein S14) extracted from Human ribosomal protein S14 gene"
```

- a) Top 3 Genes with the largest mean expression in AML patients:

```
[1] "GB DEF = mRNA fragment for elongation factor TU (N-terminus)"  
[2] "GB DEF = HLA-B null allele mRNA"  
[3] "Globin, Beta"
```

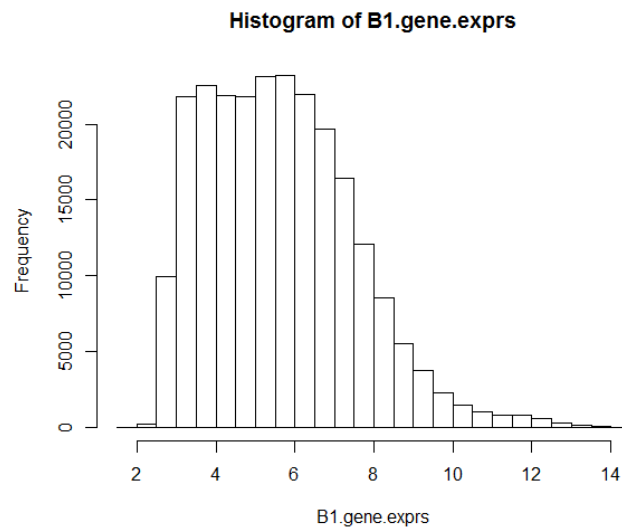
Problem 2

- a) See attached
- b) See attached
- c) 0.9174976
- d) 123
- e) See below



Problem 3

a) See figure below



b) See code

c) Top three gene IDs with the largest mean expression in stage B1 ALL patients:

```
[1] "AFFX-hum_alu_at" "31962_at" "31957_r_at"
```

Problem 4

a) Data.frame

b) See figure below. I used a different, more familiar, method of plotting.

