

BEE 4750/5750 Homework 0

Your name here (your netID here)

2022-09-01

Problem 1

Problem 1.1

```
“julia function square_number(x) output = x ^ 2 return output end” ## Problem 1.2
“julia “We can see that  $5^2 = 25$ ” “j square_number(5).”” ## Problem 1.3 “julia using Plots
x = range(-10,10) y = square_number.(x) plot(y)” # Problem 2
```

Problem 2.1

Problem 2.2

```
“julia function square_root(x,t) a = x while(true) root = 0.5 * (a + (x/a)) if (abs(root -
a) < t) return root else a = root end end end “We can see that the square root of 2 is $ ‘j
square_root(2,0.01).”” # Problem 3
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Problem 3.1

```
“julia r = rand(Float64,20)” ## Problem 3.2 ” function mean(vect) sum = 0 for i in
1:length(vect) sum += vect[i] i + 1 end output = sum / length(vect) return output end “We
can see that the mean value of r is $ ‘j mean(r).”” ## Problem 3.3
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Problem 3.4

```
“julia m = rand(Int64, (5,5))” # Problem 4
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Problem 4.1

```
“julia Pkg.add(“Distributions”) using Distributions my_normal_dist = LogNormal( , ) yt
= rand(my_normal_dist, 100)” ## Problem 4.2 “julia function Simulation(a,yt,b,q,T,X0)
Xt = X0 + a + yt + ((X0 ^ Q)/(1+X0^q)) - b * X0 return Xt end” ## Problem 4.3
```

References