

BIST/STAT 4875/5535 - Nonparametric Methods - Fall 2020

Homework 1: Solution

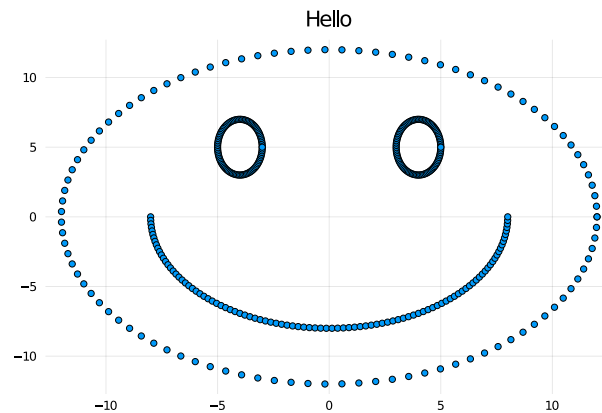
1. The result

Code execution disabled (cache not available).

is printed from the following code.

```
1  # Run this to install the packages: `import Pkg; Pkg.add("Distributions")`
2  using Random, Distributions
3
4  Random.seed!(2);
5  z = Normal(0, 1);
6  x = rand(z, 10);
7  n = length(x);
8  a = round{Int64}(sum(exp.(x.^3))) * sum(1:n) + round{Int64}(sum(abs.(x).^(2.383))^pi*pi);
9  b = round{Int64}(sum(exp.(x.^4))) - sum(1:5n) - round{Int64}(sum(abs.(x))/3);
10 res = (a,b)
```

2. The correlation coefficient between x and y is $r = -0.00051$, but the scatter plot looks like this:



The computation is performed using the following code

```
1  using DelimitedFiles, Statistics
2  # You need to make sure the data file is in the working directory
3  # With Linux and Mac, it is like: cd("/home/homework/hw01/")
4  # With Windows, it is like: cd("C:\\homework\\hw01")
5  dat = readlm("hw01.csv", ',', Any, '\n')
6  x = dat[:,1]
7  y = dat[:,2]
8  corr = round(cor(x, y), digits=5)
9  using Plots
10 p = plot(x, y, seriestype=:scatter, axis=false, legend=false, title="Hello")
11 savefig(p, "face.pdf")
```