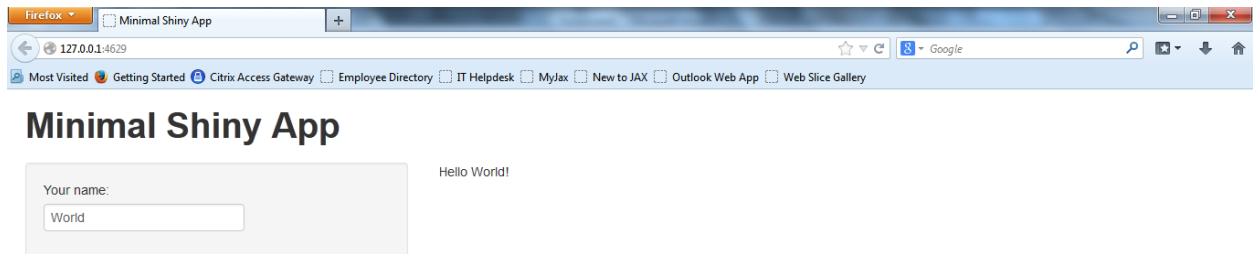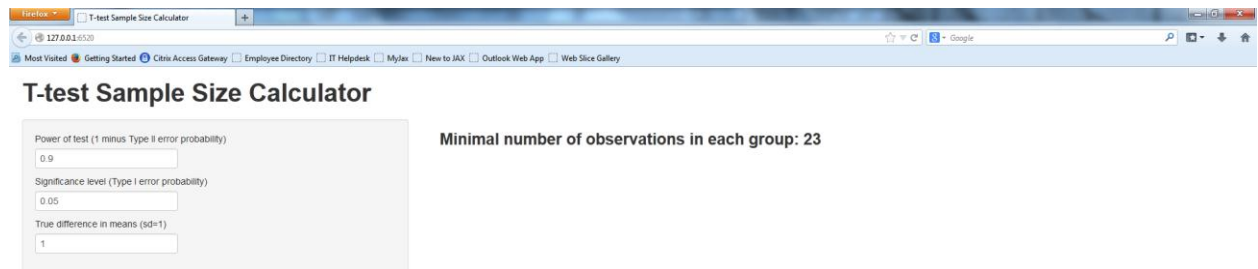## Exercise 0: Hello World!

Install `shiny` package. Download and extract 00_hello_world.zip file from http://jdem.cz/bapnb8. Edit the path in `run.R` and run it.

Exercise 1: Minimal sample size calculator

Look at `power.t.test` function and make a minimal sample size calculator for two-sample, two-sided T-test.

HINT 1: Inputs are characters; you need to convert them to numeric with `as.numeric`.

HINT 2: `textInput` fields in `ui.R` must be separated by commas

HINT 3: Use `h3(textOutput(…))` to make output more visible

Exercise 2: Better min. sample size calculator

Improve your sample size calculator:

a) Use `sliderInput` instead of `textInput`.

b) Enable user to set other parameters of `power.t.test` function with `radioButtons`, `selectInput` and `checkboxInput`

c) Print complete `power.t.test` output (not just n) with `verbatimTextOutput`

d) *Optional:* Remove dots from type / alternative options ("two sample" instead "two**.**sample")

Exercise 3: Simulated p-value distribution

And now let us do simulations. User should specify Nsim (=number of simulations), n (= number of observations in each sample) and delta (= true difference in means). The output should be a histogram of p-values for two-sided two-sample T-test. (hint: use `imageOutput` instead of `textOutput`).
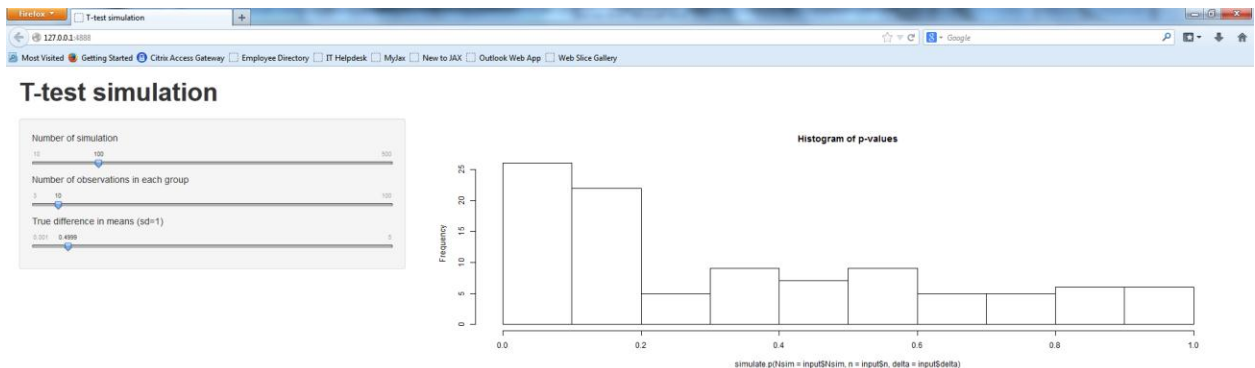
Extra 1: Add `downloadButton` and enable user to download simulated p-values

Extra 2: Add button "Generate New" that set random number generator (`set.seed`) to a new value

Extra 3: Generate histogram for p-values uploaded by user (use `fileInput`)