1. In R create a list of 100 points in the interval $(-3, 3)$ to generate
   (a) To generate a plot of Normal (0,1) density
   (b) To generate a plot of $t_1$ density
   (c) To generate a plot of $t_8$ density
   (d) To generate a plot of $t_{30}$ density

   After this try to make observations regarding the difference between $t_n$ and Normal distributions. Create the above via `WUT.Rnw` file and then proceed to compile it to WUT.pdf. Upload this file into our shared dropbox folder.

2. Write a `function` in R that will perform $z$-test on data `x` and output a $p$-value for the:

   Null hypothesis mean $= 0$ versus the alternative hypothesis that mean $> 0$.

   Next generate 100 samples of Normal $(0, 1)$ and using the function compute the $p$-value and decide if you will reject the null hypothesis at 5% level of significance.

3. Write a `function` in R that will perform $z$-test on data `x` and output a $p$-value for the:

   Null hypothesis mean $= c$ versus the alternative hypothesis that mean $> c$.

   Next consider the data

   $$75, 76, 73, 75, 74, 73, 76, 73, 79$$

   Generate 100 samples of Normal $(0, 1)$ and using the function compute the $p$-value and decide if you will reject the null hypothesis at 5% level of significance.