Exercises for lecture 1

Read Verzani-SimpleR, pages 1-8. It covers what we learned in class.

1. Create a sequence of numbers from 2 to 32 in steps of 5.

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2. Create a sequence of numbers from 1 to 35 that does not include the numbers that were mentioned above.

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3. Read the documentation for the function `seq()`, and try to use it to do 1. again.

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4. Sample 1000 numbers from the numbers 1..10, and store them in the variable x

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5. Now assign y to be 1000 random sums of 2 numbers, each in the range 1..10. Draw a histogram of y.

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6. Now assign z to be 10000 random products of 2 numbers, again in the same range. Again draw a histogram. Play with the parameter n, so that the result looks nice.

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Can you understand why the above histogram looks the way it does? What do the peaks mean?

7. Now, a small genetic simulation: create a population of 100 individuals that each have one gene, with one of 10 alleles, which occur with equal frequency. Store the genotypes of these individuals in the variable generation1.

Now create the second generation: sample randomly from the above 100 individuals. This corresponds to random replication with no mutations. Assign this to generation2. Repeat as needed. Draw histograms of the distribution of the genotypes in the population as evolution proceeds.

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