

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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