

Exercises for lab 2 of CS2101a

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Thursday 18 September 2014

1 Exercise 1

Read the following sections of the Julia documentation:

<http://docs.julialang.org/en/latest/manual/getting-started/>

<http://docs.julialang.org/en/latest/manual/integers-and-floating-point-numbers/>

<http://docs.julialang.org/en/latest/manual/functions/>

Write a Julia function that takes as input two numbers (integers or floats) and returns the absolute value of their difference.

2 Exercise 2

Read the following sections of the Julia documentation:

<http://docs.julialang.org/en/latest/manual/control-flow/>

<http://docs.julialang.org/en/latest/manual/arrays/>

1. Write a Julia program that computes the sum of two vectors (whose coefficients are either integers or floats) of the same length and computes their sum.
2. Write a Julia program that takes as input two vectors U and V (whose coefficients are either integers or floats) of the same length and computes the square matrix A such that $A[i, j]$ is $U[i] + V[j]$.

3 Exercise 3

Read the following sections of the Julia documentation:

http://en.wikipedia.org/wiki/Methods_of_computing_square_roots

http://en.wikipedia.org/wiki/Babylonian_method

Write a Julia program that takes as input an integer value n and calculates an approximation of its square root up to a specified precision p , using either the Bakhshali approximation or the Babylonian method. (The choice is yours.)