Instructions:

• All code is to use the Beginning Student language.

• Individual questions will indicate which design recipe components must be included for full marks. Unless otherwise specified, you can assume the following:
  – Helper functions only require a contract and a purpose.
  – Examples and tests must use check-expect. Unless otherwise allowed, they must be different from any examples supplied in the question. Examples also count as test cases.

• Your functions do not have to check for values not specified by the contract unless we ask you to do so.

• Functions you write may use:
  – Any function you have written in another part of the same question.
  – Any function we asked you to write for a previous part of the same question (even if you didn’t do that part).
  – Any other built-in function or special form discussed in the course slides, unless specifically noted in the question.
  – Any built-in mathematical function.

• Throughout the exam, you should follow good programming practices as outlined in the course such as appropriate use of constants and meaningful identifier names.

• You are not allowed to use if in any of your solutions.

• If you believe there is an error in the exam, notify a proctor. An announcement will be made if a significant error is found.

• It is your responsibility to properly interpret a question.
  – Do not ask questions regarding the interpretation of a question; it will not be answered and you will only disrupt your neighbours.
  – If there is a non-technical term you do not understand, you may ask for a definition.
  – If, despite your best efforts, you are still confused about a question, state your assumptions and proceed to the best of your abilities.

• If you require more space to answer a question, you may use the blank page(s) at the end of this exam, but you must clearly indicate in the provided answer space that you have done so.