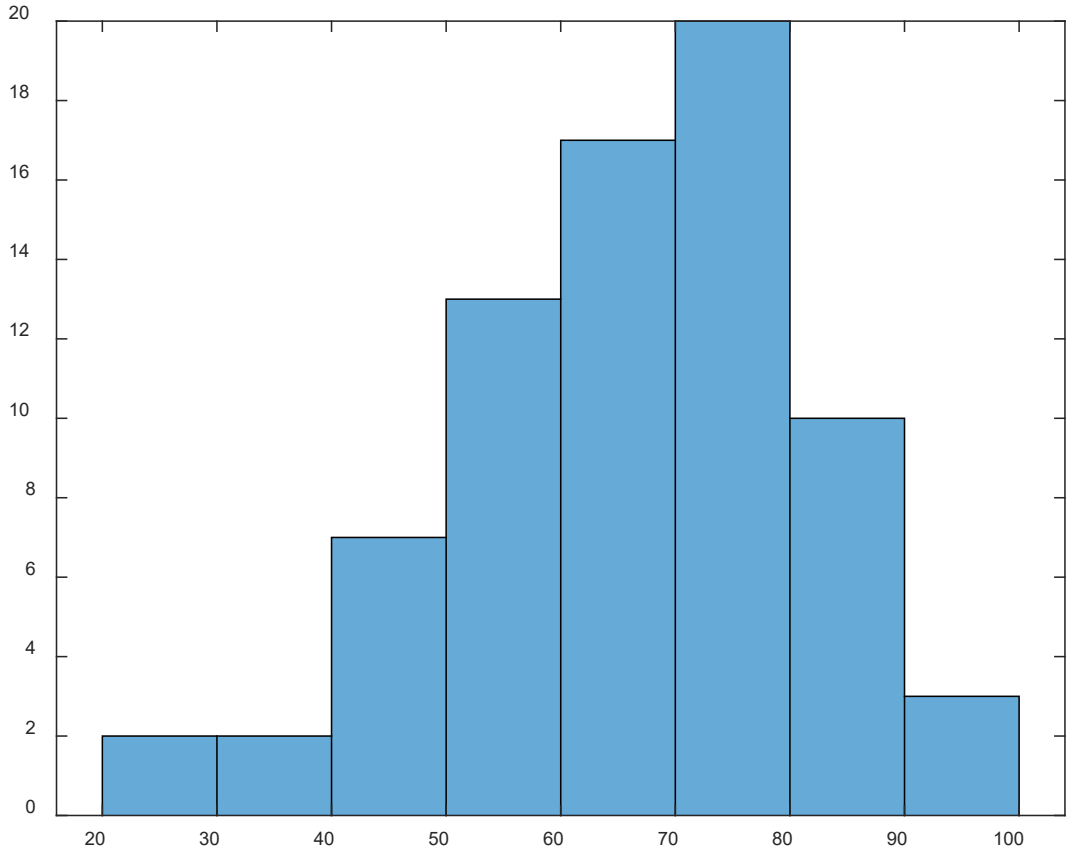
Mark Distribution



Note: Minimum 30% coursework requirement for passing the course refers to the total but not individual assessment.

Comments for Question 1

- (a) is not satisfactory. Some cannot draw the correct structure of the Venn diagram, and some are not able to calculate the required probabilities, which may be due to careless mistakes.

- (b) is less satisfactory. When the Venn diagram in (a) is incorrectly constructed, then the probabilities deduced from it will be wrong.

- (c) is satisfactory. Most are able to show that A and C are not independent by calculating the corresponding probabilities with the use of independence definition.

Comment for Question 2

- (a) is satisfactory. Most are able to determine the correct number of combinations.

- (b) is satisfactory. Most are able to understand the differences in different cases, and the correct numbers of combinations are obtained. However, there are careless mistakes like forgetting the requirement that repeated characters are not allowed.

Comments for Question 3

- (a) is satisfactory. Most are able to understand the definition of discrete random variable.

- (b) is less satisfactory. Most are able to obtain $\mathbb{E}\{Y\} = \alpha - 0.4$ which is a function of α but cannot proceed further with the bounds of α to compute the bounds of $\mathbb{E}\{Y\}$.

- (c) is less satisfactory. Correct answers cannot be obtained when (b) is wrong. Moreover, some make careless mistakes in the calculation.

Comments for Question 4

- This is not satisfactory. Most do not consider the term $(\mathbb{E}\{Y\})^2$ in the variance calculation. In fact, this question is similar to Question 4 of Tutorial 6. Some write down the PDF of the Gaussian random variable, which does not help in solving the problem. Moreover, some are not aware of the change of variance after a linear transform, which has also been discussed in Tutorial 6.

Comments for Question 5

- (a) is satisfactory. Most are able to calculate the number of correct questions correctly.

- (b) is satisfactory. Most are able to calculate the number of correct questions correctly.

- (c) is less satisfactory. Some do not clearly understand the question and thus cannot provide the correct answer. Moreover, some avoid negative marks which are not restricted in the question.

Comments for Question 6

- (a) is less satisfactory. Some are not able to apply the law of total probability with the given conditional probabilities to compute the required probability.

- (b) is less satisfactory. Some are not able to apply the Bayes' rule to compute the required probability.

Recommendations

- Read the questions carefully. All necessary information is provided.
- Show your steps clearly in answering the questions. Do not just write down the answers.
- Give complete answer. Make sure you have answered all questions.
- Understand concepts. Between "understand" and "not understand" = "not understand".
- Practice all questions (including MATLAB examples) in lecture notes, tutorials and assignments, without looking at the answers.
- Check if you have achieved the learning outcomes at each chapter.