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Daffodil International University

Department of Software Engineering

STA101: Statistics I

Batch: 44 Section: G

Course Instructor: Aman Ullah Aman

Full Marks: 15

Q1. [8 Marks]

(a) For each of the following scenarios, identify the **Population** and the **Sample**, where applicable. **[4]**

(i) A researcher selects 50 students from all SWE students at DIU to study their programming skills.

(ii) A company tests 30 laptops from a shipment of 500 laptops to assess their quality.

(iii) A teacher records the quiz scores of 20 students selected from a class of 60 students.

(iv) A software company surveys 100 users selected from all users of its mobile application.

(b) For each of the following variables, identify whether it is **Qualitative or Quantitative.** If quantitative, specify whether it is **Discrete or Continuous**. Also identify the **Scale of Measurement.** **[4]**

(i) Programming language used by a student.

(ii) Number of errors in a software program.

(iii) Execution time of an algorithm, measured in seconds.

(iv) Software defect severity (Low, Medium, High).

Q2. [7 Marks] A software engineering team recorded the number of seconds required to complete a particular testing task for 25 randomly selected software modules. The recorded times (in seconds) are given below:

12, 24, 18, 35, 27, 42, 16, 31, 22, 28, 39, 25, 14,
33, 45, 28, 19, 37, 21, 44, 30, 17, 26, 41, 34

Using the given data, answer the following questions.

(a) Construct a grouped frequency distribution table using an appropriate class width. **[3]**

(b) Draw a histogram based on your frequency distribution table. **[3]**

(c) Identify the shape of the distribution from the histogram. **[1]**