Assignment 1

Writing Guidelines:

1. Use clean A4 sheets for your assignments, ensuring legible handwriting.

2. Include the assignment number, course with section number, your name, and student ID on the first/cover page.

3. Number each page for easy reference.

4. Write your student ID on the top right corner of every assignment page.

5. Clearly label all your answers with the correct corresponding numbers.

Assignment 1

1. This table includes various car models, their features such as number of seats, engine size, transmission type, and fuel efficiency. This table shows a random selection of eight car models from a list of 100 options.

Car model	Number of seats	Engine size	Transmission	Fuel efficiency (mpg)
Sonata	5	2.4	Automatic	28
Wrangler	4	3.6	Manual	20
Civic type R	4	2.0	Manual	30
F-150	5	3.5	Automatic	24
CX-5	5	2.5	Automatic	31
Mustang	4	5.0	Automatic	18
Prius C	5	1.5	Automatic	46
Traverse	7	3.6	Manual	27

a) What is the nature of these variables? [2.5]

b) Create a frequency distribution table to depict the summarized information for the variable "Transmission" and present the outcomes using a suitable graph. [2.5]

2. Given below the frequency distributions of heights (in cm) of male and female students of CSE department of BRAC University.

Male

151+P	129+P	118+P	105+P	162+P	141+P	120+P	174+P	116+P	138+P
156+P	173+P	126+P	108+P	157+P	168+P	131+P	146+P	113+P	174+P

Female

114+P	161+P	122+P	136+P	155+P	105+P	174+P	142+P	173+P	117+P
129+P	108+P	165+P	141+P	159+P	120+P	137+P	154+P	110+P	126+P

$$P = Last\ digit\ of\ your\ student\ ID$$

a) Construct a frequency distribution table for both male and female. [5]

b) Calculate relative frequency, cumulative frequency. [5]

c) Draw comparative frequency polygon and ogive curve. [5]

Assignment 1

3. A statistics instructor wants to find a more efficient method of teaching statistics. He decides to do some research with two sections of statistics course that he teaches. He teaches one class using conventional lecture technique. We will call this "Section A". for the other class, "Section B", uses much class discussion and many group exercises. At the end of the term, both sections complete the same final exam. Here are the results of sample of 10 students.

Section A

78+P	65+P	83+P	71+P	88+P	62+P	89+P	76+P	68+P	80+P

Section B

64+P	87+P	72+P	66+P	89+P	75+P	82+P	61+P	79+P	88+P

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a) Prepare a stem and leaf plot that compares the scores for the two sections. [3]
b) Describe the pattern of results you observe. How does the performance in section B compare in section A. [2]

4. The following data give the number of computers sold by a company for a sample of $\sum f_i$ days.

Item sold	20-29	30-39	40-49	50-59	60-69	70-79
f_i	4+P	11+P	9+P	7+P	5+P	4+P

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a) Use the given information to construct an ogive curve. [2]
b) Use the ogive curve from (a), what is the approximate number of computers sold on (P+26) days. [3]