Assignment 3

Vedant Bhandare (cs21btech11007)

***Abstract*—This document contains the solution for Assignment 3 (CBSE Class 9 Chapter 14 (Probability) Example 3**

Example 3: 100 plants each were planted in 100 schools during Van Mahotsav. After one month, the number of plants that survived were reccorded as :

95	67	28	32	65	65	69	33	98	96
76	42	32	38	42	40	40	69	95	92
75	83	76	83	85	62	37	65	63	42
89	65	73	81	49	52	64	76	83	92
93	68	52	79	81	83	59	82	75	82
86	90	44	62	31	36	38	42	39	83
87	56	88	23	35	76	83	85	30	68
69	83	86	43	45	39	83	75	66	83
92	75	89	66	91	27	88	89	93	42
53	69	90	55	66	49	52	83	34	36

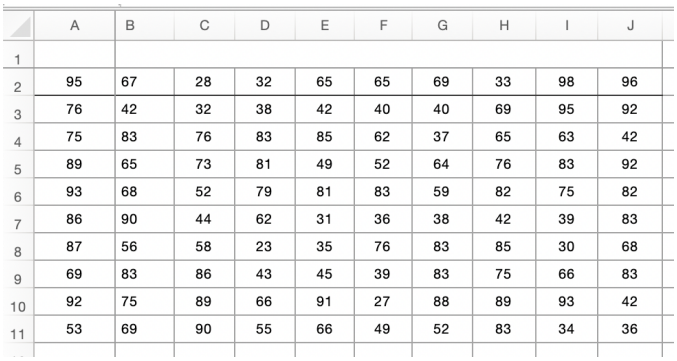
Prepare a grouped frequency distribution table to represent the above raw data, and hence find class width and number of schools with more than 50% plants survived.

Solution:

Number of plants survived	Tally Marks	Number of schools (frequency)
20 - 29	𝍸	3
30 - 39	𝍸 𝍸 ||||	14
40 - 49	𝍸 𝍸 ||	12
50 - 59	𝍸 |||	8
60 - 69	𝍸 𝍸 𝍸 |||	18
70 - 79	𝍸 𝍸	10
80 - 89	𝍸 𝍸 𝍸 𝍸 |||	23
90 - 99	𝍸 𝍸 ||	12

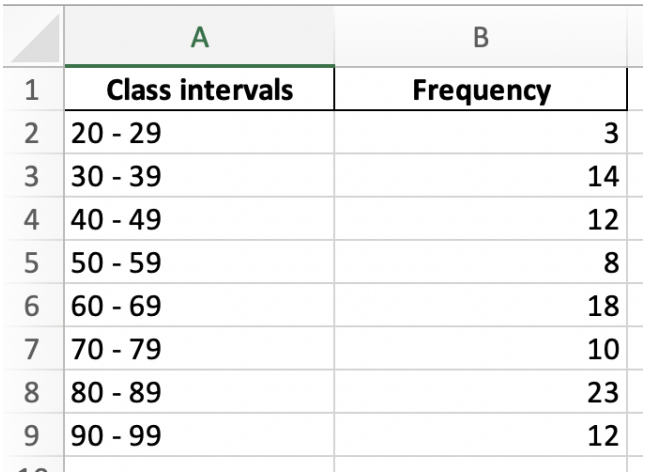
TABLE 1: Group frequency distribution table

Class width = 10
Number of schools with more than 50% plants survived = 8 + 18 + 10 + 23 + 12 = 71



	A	B	C	D	E	F	G	H	I	J
1										
2	95	67	28	32	65	65	69	33	98	96
3	76	42	32	38	42	40	40	69	95	92
4	75	83	76	83	85	62	37	65	63	42
5	89	65	73	81	49	52	64	76	83	92
6	93	68	52	79	81	83	59	82	75	82
7	86	90	44	62	31	36	38	42	39	83
8	87	56	58	23	35	76	83	85	30	68
9	69	83	86	43	45	39	83	75	66	83
10	92	75	89	66	91	27	88	89	93	42
11	53	69	90	55	66	49	52	83	34	36

Fig. 1. Python code reads from the rawdata.xlsx



	A	B
1	**Class intervals**	**Frequency**
2	20 - 29	3
3	30 - 39	14
4	40 - 49	12
5	50 - 59	8
6	60 - 69	18
7	70 - 79	10
8	80 - 89	23
9	90 - 99	12

Fig. 2. Python code processes the data and creates frequency_distribution.xlsx