

EduSahara™ Learning Center Assignment

Grade : Class X, CBSE

Chapter : Statistics

Name : Cumulative Frequency Distribution

Construct a frequency distribution table from the following cumulative frequency distribution

1.

Class-Interval	Cumulative Frequency
29 - 36	12
37 - 44	25
45 - 52	31
53 - 60	36
61 - 68	41
69 - 76	49
77 - 84	61
85 - 92	72

(i)

Class-Interval	29 - 36	37 - 44	45 - 52	53 - 60	61 - 68	69 - 76	77 - 84	85 - 92
Frequency	12	11	6	5	5	8	12	13

(ii)

Class-Interval	29 - 36	37 - 44	45 - 52	53 - 60	61 - 68	69 - 76	77 - 84	85 - 92
Frequency	12	13	6	5	8	8	12	11

(iii)

Class-Interval	29 - 36	37 - 44	45 - 52	53 - 60	61 - 68	69 - 76	77 - 84	85 - 92
Frequency	12	13	5	6	5	8	12	11

(iv)

Class-Interval	29 - 36	37 - 44	45 - 52	53 - 60	61 - 68	69 - 76	77 - 84	85 - 92
Frequency	12	13	6	5	5	8	12	11

(v)

Class-Interval	29 - 36	37 - 44	45 - 52	53 - 60	61 - 68	69 - 76	77 - 84	85 - 92
Frequency	12	13	3	5	5	8	12	11

Construct a frequency distribution table from the following cumulative frequency distribution

2.

Class-Interval	Cumulative Frequency
21 - 28	7
28 - 35	19
35 - 42	32
42 - 49	40
49 - 56	51
56 - 63	59
63 - 70	66

(i)

Class-Interval	21 - 28	28 - 35	35 - 42	42 - 49	49 - 56	56 - 63	63 - 70
Frequency	7	12	13	8	11	8	7

(ii)

Class-Interval	21 - 28	28 - 35	35 - 42	42 - 49	49 - 56	56 - 63	63 - 70

Frequency	7	7	13	8	11	8	12
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(iii)

Class-Interval	21 - 28	28 - 35	35 - 42	42 - 49	49 - 56	56 - 63	63 - 70
Frequency	7	12	18	8	11	8	7

(iv)

Class-Interval	21 - 28	28 - 35	35 - 42	42 - 49	49 - 56	56 - 63	63 - 70
Frequency	7	12	13	5	11	8	7

(v)

Class-Interval	21 - 28	28 - 35	35 - 42	42 - 49	49 - 56	56 - 63	63 - 70
Frequency	7	13	12	8	11	8	7

Following are the ages (in years) of patients getting medical treatment in a hospital. Identify the cumulative frequency of the given grouped data.

3.

Age (in years)	10 - 20	21 - 31	32 - 42	43 - 53
No. of Patients	43	11	71	89

(i)

Age (in years)	Cumulative Frequency
10 - 20	43
21 - 31	54
32 - 42	125
43 - 53	214

(ii)

Age (in years)	Cumulative Frequency
10 - 20	43
21 - 31	51
32 - 42	122
43 - 53	211

(iii)

Age (in years)	Cumulative Frequency
10 - 20	43
21 - 31	114
32 - 42	125
43 - 53	214

(iv)

Age (in years)	Cumulative Frequency
10 - 20	43
21 - 31	54
32 - 42	121
43 - 53	210

(v)

Age (in years)	Cumulative Frequency
10 - 20	89
21 - 31	100
32 - 42	171
43 - 53	214

Following are the ages (in years) of patients getting medical treatment in a hospital. Identify the cumulative frequency of the given grouped data.

4.

Age (in years)	10 - 15	15 - 20	20 - 25	25 - 30	30 - 35	35 - 40
No. of Patients	29	22	39	30	63	10

(i)

Age (in years)	Cumulative Frequency
10 - 15	29
15 - 20	51
20 - 25	90
25 - 30	120
30 - 35	183
35 - 40	193

(ii)

Age (in years)	Cumulative Frequency
10 - 15	29
15 - 20	39
20 - 25	78
25 - 30	108
30 - 35	171
35 - 40	193

(iii)

Age (in years)	Cumulative Frequency
10 - 15	29
15 - 20	68
20 - 25	90
25 - 30	120
30 - 35	183
35 - 40	193

(iv)

Age (in years)	Cumulative Frequency
10 - 15	29
15 - 20	51
20 - 25	88
25 - 30	118
30 - 35	181
35 - 40	191

(v)

Age (in years)	Cumulative Frequency
10 - 15	29
15 - 20	51
20 - 25	90
25 - 30	123
30 - 35	186
35 - 40	196

Following are the daily wages (in rupees) of labourers working in a factory. Identify the cumulative frequency of the given grouped data.

5.

Wages (in rupees)	300 - 330	331 - 361	362 - 392	393 - 423	424 - 454	455 - 485
Labourers	9	1	8	16	4	16

(i)

Wages (in rupees)	Cumulative Frequency
300 - 330	9
331 - 361	10
362 - 392	18
393 - 423	31
424 - 454	35
455 - 485	51

(ii)

Wages (in rupees)	Cumulative Frequency
300 - 330	9
331 - 361	10
362 - 392	16
393 - 423	32
424 - 454	36
455 - 485	52

(iii)

Wages (in rupees)	Cumulative Frequency
300 - 330	9
331 - 361	10
362 - 392	18
393 - 423	34
424 - 454	38
455 - 485	54

(iv)

Wages (in rupees)	Cumulative Frequency
300 - 330	9
331 - 361	17
362 - 392	18
393 - 423	34
424 - 454	38
455 - 485	54

(v)

Wages (in rupees)	Cumulative Frequency
300 - 330	9
331 - 361	25
362 - 392	33
393 - 423	49
424 - 454	53
455 - 485	54

6. Following are the daily wages (in rupees) of labourers working in a factory. Identify the cumulative frequency of the given grouped data.

Wages (in rupees)	200 - 220	220 - 240	240 - 260	260 - 280	280 - 300	300 - 320
Labourers	19	20	14	4	9	16

(i)

Wages (in rupees)	Cumulative Frequency
200 - 220	19
220 - 240	35
240 - 260	49
260 - 280	53
280 - 300	62
300 - 320	82

(ii)

Wages (in rupees)	Cumulative Frequency
200 - 220	19
220 - 240	39
240 - 260	53
260 - 280	57
280 - 300	66
300 - 320	82

(iii)

Wages (in rupees)	Cumulative Frequency
200 - 220	19
220 - 240	39
240 - 260	48
260 - 280	52
280 - 300	61
300 - 320	77

(iv)

Wages (in rupees)	Cumulative Frequency
200 - 220	19
220 - 240	39
240 - 260	53
260 - 280	60
280 - 300	69
300 - 320	85

(v)

Wages (in rupees)	Cumulative Frequency
200 - 220	19
220 - 240	33
240 - 260	53
260 - 280	57
280 - 300	66
300 - 320	82

Identify the cumulative frequency of the given grouped data.

7.

class interval	11 - 16	17 - 22	23 - 28	29 - 34	35 - 40	41 - 46	47 - 52	53 - 58
frequency	25	22	10	6	25	18	19	15

(i)

class interval	Cumulative Frequency
11 - 16	25
17 - 22	40
23 - 28	50
29 - 34	56
35 - 40	81
41 - 46	99
47 - 52	118
53 - 58	140

(ii)

class interval	Cumulative Frequency
11 - 16	25
17 - 22	47
23 - 28	57
29 - 34	63
35 - 40	88
41 - 46	106
47 - 52	125
53 - 58	140

(iii)

class interval	Cumulative Frequency
11 - 16	25

(iv)

class interval	Cumulative Frequency
11 - 16	25

17 - 22	47
23 - 28	57
29 - 34	63
35 - 40	93
41 - 46	111
47 - 52	130
53 - 58	145

17 - 22	47
23 - 28	62
29 - 34	68
35 - 40	93
41 - 46	111
47 - 52	130
53 - 58	145

(v)

class interval	Cumulative Frequency
11 - 16	25
17 - 22	47
23 - 28	53
29 - 34	63
35 - 40	88
41 - 46	106
47 - 52	125
53 - 58	140

Identify the cumulative frequency of the given grouped data.

8.	class interval	27 - 35	35 - 43	43 - 51	51 - 59	59 - 67
	frequency	21	14	7	20	15

(i)

class interval	Cumulative Frequency
27 - 35	21
35 - 43	35
43 - 51	42
51 - 59	62
59 - 67	77

(ii)

class interval	Cumulative Frequency
27 - 35	21
35 - 43	35
43 - 51	37
51 - 59	57
59 - 67	72

(iii)

class interval	Cumulative Frequency
27 - 35	21
35 - 43	30
43 - 51	37
51 - 59	57
59 - 67	72

(iv)

class interval	Cumulative Frequency
27 - 35	21
35 - 43	36
43 - 51	43
51 - 59	63
59 - 67	77

(v)

class interval	Cumulative Frequency
27 - 35	21
35 - 43	28
43 - 51	42
51 - 59	62
59 - 67	77

9. Less than cumulative curves are drawn using

(i) upper boundaries of classes and less than cumulative frequencies

- (ii) mid values of classes and less than cumulative frequencies
- (iii) lower boundaries of classes and less than cumulative frequencies
- (iv) lower boundaries of classes and greater than cumulative frequencies

10. Greater than cumulative curves are drawn using

- (i) mid values of classes and greater than cumulative frequencies
- (ii) upper boundaries of classes and greater than cumulative frequencies
- (iii) lower boundaries of classes and greater than cumulative frequencies
- (iv) upper boundaries of classes and less than cumulative frequencies

Find the cumulative frequency of class 56 - 64 .

11.

Class-Interval	47 - 55	56 - 64	65 - 73	74 - 82	83 - 91
Frequency	23	15	22	18	20

- (i) 41 (ii) 39 (iii) 35 (iv) 37 (v) 38

Find the cumulative frequency of class 56 - 61 .

12.

Class-Interval	41 - 46	46 - 51	51 - 56	56 - 61	61 - 66	66 - 71	71 - 76	76 - 81
Frequency	11	24	24	17	21	23	15	16

- (i) 79 (ii) 76 (iii) 75 (iv) 73 (v) 77

The following cumulative frequency table represents which of the following frequency distribution

13.

Class-Interval	Cumulative Frequency
23 - 27	14
27 - 31	29
31 - 35	45
35 - 39	60
39 - 43	75
43 - 47	82
47 - 51	90

(i)

Class-Interval	23 - 27	27 - 31	31 - 35	35 - 39	39 - 43	43 - 47	47 - 51
Frequency	14	15	16	13	15	7	8

(ii)

Class-Interval	23 - 27	27 - 31	31 - 35	35 - 39	39 - 43	43 - 47	47 - 51
Frequency	14	16	15	15	15	7	8

(iii)

Class-Interval	23 - 27	27 - 31	31 - 35	35 - 39	39 - 43	43 - 47	47 - 51
Frequency	14	15	19	15	15	7	8

(iv)

Class-Interval	23 - 27	27 - 31	31 - 35	35 - 39	39 - 43	43 - 47	47 - 51
Frequency	14	8	16	15	15	7	15

(v)

Class-Interval	23 - 27	27 - 31	31 - 35	35 - 39	39 - 43	43 - 47	47 - 51
Frequency							

Frequency	14	15	16	15	15	7	8
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The following cumulative frequency table represents which of the following frequency distribution

14.

Class-Interval	Cumulative Frequency
14 - 22	60
22 - 30	48
30 - 38	41
38 - 46	32
46 - 54	16
54 - 62	5

(i)

Class-Interval	14 - 22	22 - 30	30 - 38	38 - 46	46 - 54	54 - 62
Frequency	12	7	9	16	11	5

(ii)

Class-Interval	14 - 22	22 - 30	30 - 38	38 - 46	46 - 54	54 - 62
Frequency	12	7	9	19	11	5

(iii)

Class-Interval	14 - 22	22 - 30	30 - 38	38 - 46	46 - 54	54 - 62
Frequency	12	5	9	16	11	7

(iv)

Class-Interval	14 - 22	22 - 30	30 - 38	38 - 46	46 - 54	54 - 62
Frequency	12	7	14	16	11	5

(v)

Class-Interval	14 - 22	22 - 30	30 - 38	38 - 46	46 - 54	54 - 62
Frequency	12	9	7	16	11	5

During the medical check-up of 68 students of a class, their weights in kgs are recorded as follows.

Identify the number of students whose weight is more than 45 kg

15.

Class-Interval	30 - 35	35 - 40	40 - 45	45 - 50	50 - 55	55 - 60	60 - 65	65 - 70
Frequency	12	6	7	7	11	12	5	8

(i) 45 (ii) 44 (iii) 42 (iv) 43 (v) 40

Assignment Key

- 1) (iv)
- 2) (i)
- 3) (i)
- 4) (i)
- 5) (iii)
- 6) (ii)
- 7) (ii)
- 8) (i)
- 9) (i)
- 10) (iii)
- 11) (v)
- 12) (ii)
- 13) (v)
- 14) (i)
- 15) (iv)