**Class Limits, Boundaries And Intervals**

Class Limits

Class limits are the smallest and largest observations (data, events etc) in each class. Therefore, each class has two limits: a lower and upper.

Example:

|  |  |
| --- | --- |
| **Class** | **Frequency** |
| 200 – 299 | 12 |
| 300 – 399 | 19 |
| 400 – 499 | 6 |
| 500 – 599 | 2 |
| 600 – 699 | 11 |
| 700 – 799 | 7 |
| 800 – 899 | 3 |
| **Total Frequency** | **60** |

Using the frequency table above, what are the lower and upper class limits for the first three classes?

For the first class, 200 – 299

The lower class limit is *200*

The upper class limit is *299*

For the second class, 300 – 399

The lower class limit is *300*

The upper class limit is *399*

For the third class, 400 – 499

The lower class limit is *400*

The upper class limit is *499*

Class Boundaries

Class Boundaries are the midpoints between the upper class limit of a class and the lower class limit of the next class in the sequence. Therefore, each class has an upper and lower class boundary.

Example:

|  |  |
| --- | --- |
| **Class** | **Frequency** |
| 200 – 299 | 12 |
| 300 – 399 | 19 |
| 400 – 499 | 6 |
| 500 – 599 | 2 |
| 600 – 699 | 11 |
| 700 – 799 | 7 |
| 800 – 899 | 3 |
| **Total Frequency** | **60** |

Using the frequency table above, determine the class boundaries of the first three classes.

For the first class, 200 – 299

The lower class boundary is the midpoint between 199 and 200, that is *199.5*

The upper class boundary is the midpoint between 299 and 300, that is *299.5*

For the second class, 300 – 399

The lower class boundary is the midpoint between 299 and 300, that is *299.5*

The upper class boundary is the midpoint between 399 and 400, that is *399.5*

For the third class, 400 – 499

The lower class boundary is the midpoint between 399 and 400, that is *399.5*

The upper class boundary is the midpoint between 499 and 500, that is *499.5*

Class Intervals

Class interval is the difference between the upper and lower class boundaries of any class.

Example:

|  |  |
| --- | --- |
| **Class** | **Frequency** |
| 200 – 299 | 12 |
| 300 – 399 | 19 |
| 400 – 499 | 6 |
| 500 – 599 | 2 |
| 600 – 699 | 11 |
| 700 – 799 | 7 |
| 800 – 899 | 3 |
| **Total Frequency** | **60** |

Using the table above, determine the class intervals for the first class.

For the first class, 200 – 299

The class interval = Upper class boundary – lower class boundary

Upper class boundary = 299.5

Lower class boundary = 199.5

Therefore, the class interval = 299.5 – 199.5

= 100