Зафиксированы статистические данные, представленные целочисленными массивами.

Задание:

1. Проверить выборку на наличие выбросов.
2. Осуществить очистку данных при необходимости.
3. Отобразить данные в виде ряда распределения.
4. Постройте эмпирическую функцию распределения.
5. Отобразите графически статистические данные двумя различными способами (ленточная, столбиковая, радиальная, круговая диаграммы и т.д. на Ваш выбор).
6. Построить полигон частот и полигон относительных частот.
7. Построить гистограмму для случая равных интервалов.
8. Построить кумулятивную кривую и огиву.

**Вариант №1**

6, -2, 7, 4, -5, 8, 6, 7, 4, -3, 7, 1, 7, 9, -2, -3, 8, -1, 10, -3, -3, 3, 0, 9, 2, 9, -4, 8, 5, 2, 6, 0, 5, 3, 10, 6, 1, 6, 3, 12, 9, -1, 1, 6, -2, 5, 8, -5, 9, 7, -2, -5, 0, 4, 10, 7, 2, -8, 5, -4, 3, 1, 2, -2, 9, 2, 9, 0, -2, 1, 0, -4, 6, 6, 7, 10, 0, 5, -5, -1, 2, -2, -1, 7, 8, -1, 3, 0, 0, -3, 1, 9, 4, 9, -4, 2, 1, -5, 7, 4

**Вариант №2**

6, 14, 18, 16, 5, 18, 10, 3, 15, 11, 9, 4, 0, 20, 3, 12, 2, 6, 8, 2, 17, 6, 6, 37, 13, 5, 1, 3, 17, 14, 11, 2, 8, 8, 18, 13, 6, 7, 17, 0, 18, 6, 5, 19, 5, 8, 10, 8, 15, 19, 11, 11, 4, 17, -4, 17, 1, 9, 0, 18, 2, 11, 0, 11, 20, 18, 3, 6, 4, 0, 6, 2, 7, 11, 1, 12, 20, 12, 0, 14, 10, 11, 5, 15, 8, 13, 12, 10, 1, 12, 8, 4, 33, 8, 15, 3, 5, 19, 9, 10

**Вариант №3**

9, 22, 7, 30, 26, 27, 16, 7, 25, 10, 23, 22, 12, 1, 2, 5, 10, 27, 0, 14, 28, 11, 27, 22, 0, 14, 2, 30, 10, 23, 6, 20, 14, 13, 19, 9, 10, 5, 17, 4, 15, 9, 26, 27, 11, 28, 1, 22, 45, 1, 5, 22, 13, 2, 13, 13, 16, 16, 13, 27, 8, 20, 16, 23, 3, 5, 1, 13, 10, 18, 17, 26, 28, 13, 22, -9, 11, 24, 0, 5, 26, 6, 28, 8, 8, 11, 22, 25, 27, 4, 22, 5, 24, 8, 29, 27, 14, 0, 10, 24

**Вариант №4**

-4, 0, -4, -9, -1, -10, -2, -4, -10, -9, -3, -2, -5, -1, -1, -7, -7, -4, -1, -7, -1, -10, -7, -8, -9, 0, -1, 0, -6, -5, -8, 0, -5, -2, -10, -7, -1, -1, -1, 0, 0, -4, -3, -6, -6, -4, -2, -2, -9, 4, -10, -10, -3, -6, -8, -1, -7, -10, -2, -3, -4, -10, -3, -9, -1, -2, -6, -3, -4, -7, -4, -5, 0, -7, 0, -6, -1, -3, 9, 0, -7, -9, 0, 0, -5, -8, -2, -1, -7, -4, -4, -1, -4, -8, 0, -5, 0, -6, -9, -5

**Вариант №5**

4, 1, -10, 9, -2, -5, 7, -10, 10, -4, -8, 9, -1, -3, -9, 1, 5, -8, 8, 0, -2, 8, 3, -1, 5, 6, 2, 4, 2, 9, 8, -4, 0, 8, -5, 8, -7, -9, 8, -8, -2, -10, -9, 7, -3, -8, -3, -8, -6, -5, 2, 2, -7, -6, -9, 8, 10, 4, 2, 1, 2, -1, 8, -9, -3, -8, 10, 0, -7, 7, 3, 1, 8, 5, -2, -6, 7, 5, -4, -9, -10, 8, 3, -7, -8, 5, -9, -8, -2, 4, 4, -10, -8, 1, -8, 0, 3, -9, -10, 6

**Вариант №6**

-20, -16, 12, 20, -6, 16, -13, -15, 11, -8, -4, -15, -2, -4, 2, -20, 1, -3, -3, -13, 45, -4, 14, -12, 4, 2, -13, 16, 14, 19, -13, 15, -18, 19, 15, -4, 14, -19, 1, 4, -7, 18, 10, 11, -6, -9, 12, 16, 8, -11, -18, -7, 5, 17, 1, -12, -2, 8, -17, -8, 6, -10, -13, 9, -11, -19, -16, -48, -18, 6, 7, -4, 4, -4, -13, 18, 8, 19, 13, -4, -13, 16, 9, 12, 12, -11, -20, -10, 17, -16, 2, 3, -5, 10, -9, 4, 11, -4, 7, 14

**Вариант №7**

-8, -19, 8, -2, 0, 2, -13, -17, 1, -8, -2, -13, -16, -5, -5, 29, -15, 2, 5, 10, -4, 4, -19, 6, -5, -5, 8, -7, 2, 10, -17, -17, -20, -19, 2, 0, 3, 10, 4, -7, -9, -9, 1, -4, 7, -35, -5, -19, 8, -11, -19, -6, -18, -18, -10, -3, -2, -13, 10, -11, -14, -17, -7, -14, -16, -16, 7, 8, -16, 0, -9, -5, -19, -19, -19, 8, -13, -4, 10, -15, 5, -19, -1, 7, -16, 9, -6, 2, -14, -6, -19, -7, -3, -6, 0, 2, -1, -4, -1, 3

**Вариант №8**

16, 17, 29, 0, 13, 15, 14, 15, 30, 13, 24, 15, 11, 29, 14, 30, 23, 18, 22, 14, 16, 19, 13, 29, 30, 21, 16, 13, 22, 12, 10, 28, 20, 30, 28, 23, 14, 12, 28, 14, 15, 22, 19, 16, 20, 24, 15, 13, 11, 28, 17, 17, 16, 20, 16, 16, 11, 23, 19, 23, 25, 19, 20, 15, 19, 18, 28, 24, 20, 26, 28, 26, 17, 17, 11, 28, 10, 57, 10, 11, 14, 18, 19, 21, 29, 25, 28, 30, 17, 16, 22, 12, 26, 12, 17, 14, 21, 15, 28, 10

**Вариант №9**

32, 28, 29, 27, 10, 25, 23, 25, 14, 10, 31, 31, 26, 18, 20, 16, 8, 17, 6, 14, 10, 18, 29, 28, 34, 21, 11, 11, 33, 17, 31, 30, 9, 25, 22, 15, 14, 10, 35, 24, 15, 31, 19, 5, 13, 35, 16, 17, 17, 18, 27, 22, 32, 20, 14, 30, 5, 21, 6, 34, 53, 32, 29, 6, 22, 15, 17, 32, 20, 17, 20, 30, 12, 35, 31, 21, 34, 12, 33, 15, 25, 24, 32, 21, 8, 11, 16, 9, 27, 17, 7, 24, 14, 31, 26, 32, 10, -7, 28, 26

**Вариант №10**

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**Вариант №11**

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**Вариант №12**

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**Вариант №13**

28, 20, 34, 32, 41, 20, 27, 30, 34, 31, 19, 27, 33, 24, 44, 19, 39, 32, 38, 21, 25, 39, 40, 31, 27, 28, 21, 40, 24, 23, 44, 34, 25, 34, 21, 21, 36, 29, 33, 25, 42, 33, 33, 31, 39, 33, 31, 34, 20, 25, 36, 26, 20, 32, 38, 28, 42, 41, 24, 21, 20, 23, 36, 26, 39, 38, 29, 30, 23, 43, 36, 21, 31, 25, 33, 26, 39, 19, 41, 40, 56, 33, 22, 27, 20, 42, 36, 43, 38, 41, 20, 40, 20, 37, 21, 40, 31, 31, 65, 36

**Вариант №14**

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**Вариант №15**

-9, -15, -12, -19, -17, -14, -5, -12, -10, -5, -14, -18, -18, -6, -11, -13, -19, -18, -9, -6, -15, -13, -13, -9, -12, -5, -8, -14, -8, -20, -16, -13, -14, -7, -11, -11, -16, -12, -19, -6, -13, -13, -20, -10, -15, -10, -19, -13, -8, -8, -15, -19, -16, -7, -7, -7, -8, -11, 7, -11, -11, -12, -19, -20, -14, -10, -11, -10, -18, -10, -12, -10, -18, -11, -16, -12, -17, -14, -20, -5, -17, -14, -19, -13, -17, -6, -16, 10, -13, -12, -11, -19, -20, -9, -19, -14, -15, -9, -20, -12