

Basic Vector Styling

QGIS Tutorials and Tips



Author

Ujaval Gandhi

<http://google.com/+UjavalGandhi>

Translations by

Marina Pavlova Ilya Trofimov Fayçal Fatihi

Geographic Information Systems (GIS) and Remote Sensing

Geographic Information Systems (GIS) and Remote Sensing are tools used to collect, store, analyze, and display spatial data. GIS is a computer-based system that allows users to create maps and analyze spatial data. Remote Sensing is the process of collecting data about the Earth's surface from a distance, typically using satellites or aircraft. Both GIS and Remote Sensing are used in a variety of applications, including urban planning, environmental management, and disaster response.

GIS and Remote Sensing Applications

GIS and Remote Sensing have many applications in various fields. In urban planning, GIS is used to analyze land use patterns and plan infrastructure. In environmental management, Remote Sensing is used to monitor deforestation and climate change. In disaster response, GIS is used to map affected areas and plan relief efforts.

GIS and Remote Sensing Data Sources

- GIS and Remote Sensing data can come from a variety of sources, including:

GIS and Remote Sensing Data Sources

GIS and Remote Sensing data can come from a variety of sources, including satellite imagery, aerial photography, and ground-based data. Satellite imagery is collected by satellites in orbit around the Earth. Aerial photography is taken from aircraft. Ground-based data is collected by sensors on the ground. The data is then processed and analyzed to create maps and other spatial information. One of the most common sources of satellite imagery is the Landsat program, which is managed by the United States Geological Survey (USGS). The Landsat program has been operating since 1972 and has provided a continuous record of Earth's surface. Another common source of satellite imagery is the Global Positioning System (GPS), which is used to track the location of objects on the Earth's surface. GPS data is used in a variety of applications, including navigation, mapping, and environmental monitoring. Ground-based data is also used in GIS and Remote Sensing. This data can come from a variety of sensors, including cameras, lidar, and radar. Ground-based data is used to create maps and other spatial information, and it can also be used to validate satellite data.

lifeexpectancy.zip

lifeexpectancy.zip [SAGE]

GIS and Remote Sensing Data Sources

1. GIS and Remote Sensing data can come from a variety of sources, including:



2. lifeexpectancy.zip newsweek_data.shp WGS84 EPSG:4326 ().



3. **CRS Selection**, **Coordinate Reference System** **WGS 84**, **Authority ID** **EPSG:4326**, **Selected CRS:** **WGS 84**, **PROJ string** **+proj=longlat +datum=WGS84 +no_defs**.



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5. **newweek_data** is a vector layer. It contains a table with the following fields: **LIFEXPCT**, **Life Expectancy** - **newweek_data**.

Attribute table - newswk_data :: Features total: 165, filtered: 165, selected: 0

	GRWRATE	URBPOP	MIG_RATE	POP_15	POP65_	LIFEXPCT	CONTRCEP
0	2.620000000	47.000000000	0.000000000	45.200000000	3.800000000	47.000000000	7.000000000
1	2.660000000	33.000000000	0.000000000	44.900000000	3.100000000	42.000000000	4.000000000
2	1.900000000	53.000000000	-0.400000000	33.200000000	5.100000000	76.000000000	58.000000000
3	0.940000000	35.000000000	-9.900000000	32.300000000	4.000000000	65.000000000	31.000000000
4	3.320000000	46.000000000	2.200000000	46.000000000	3.700000000	55.000000000	6.000000000
5	3.170000000	44.000000000	0.500000000	48.100000000	2.800000000	52.000000000	1.000000000
6	3.360000000	32.000000000	-0.100000000	48.000000000	2.500000000	50.000000000	8.000000000
7	3.400000000	5.000000000	0.700000000	49.800000000	2.300000000	46.000000000	10.000000000
8	2.880000000	8.000000000	0.000000000	46.300000000	2.900000000	48.000000000	9.000000000
9	3.720000000	29.000000000	-0.200000000	47.100000000	2.900000000	46.000000000	1.000000000
10	2.840000000	49.000000000	-0.100000000	48.500000000	2.200000000	49.000000000	1.000000000
11	3.310000000	15.000000000	-7.700000000	49.200000000	2.600000000	45.000000000	7.000000000
12	2.370000000	51.000000000	-0.100000000	39.700000000	3.900000000	59.000000000	30.000000000
13	2.830000000	27.000000000	32.000000000	44.900000000	3.300000000	47.000000000	4.000000000
14	2.970000000	25.000000000	-0.300000000	44.600000000	2.800000000	60.000000000	43.000000000
15	3.180000000	33.000000000	0.000000000	45.000000000	3.400000000	58.000000000	26.000000000
16	1.550000000	84.000000000	0.000000000	30.500000000	6.400000000	72.000000000	43.000000000
17	2.920000000	25.000000000	0.000000000	44.900000000	3.300000000	68.000000000	33.000000000
18	2.690000000	46.000000000	0.000000000	39.600000000	3.600000000	67.000000000	48.000000000
19	2.370000000	60.000000000	0.200000000	37.500000000	4.000000000	62.000000000	48.000000000
20	2.680000000	30.000000000	0.000000000	42.500000000	3.100000000	57.000000000	20.000000000
21	2.470000000	9.000000000	0.000000000	40.700000000	3.900000000	56.000000000	5.000000000

Show All Features

6. **GRWRATE** **URBPOP** **MIG_RATE**. **POP_15** **POP65_** **LIFEXPCT** **CONTRCEP**
GRWRATE **URBPOP** **MIG_RATE** **POP_15** **POP65_** **LIFEXPCT** **CONTRCEP**.



7.

The first step in the process of creating a map is to define the data that will be used. This can be done by loading a shapefile or a database connection. Once the data is loaded, the next step is to define the map's extent and scale. This can be done by specifying the map's bounding box and the scale factor. Finally, the map can be rendered and saved as a PDF or a high-resolution image.



8. The 'Layer Properties' dialog box is used to configure the appearance of a layer in a map. It allows users to set various properties such as layer transparency, layer blending mode, and the layer's symbol. The 'Style' tab is the primary interface for these settings. Within the 'Style' tab, users can choose from different symbol types (e.g., Single Symbol, Categorized, Graduated, Rule-based, Point displacement) and select a specific symbol from a library of predefined styles. The 'Symbol layers' section provides a visual preview of the selected symbol and its application to the layer's data. Additionally, the 'Saved styles' section offers a collection of predefined symbols for quick selection. The dialog box also includes buttons for 'Restore Default Style', 'Save As Default', 'Load Style ...', 'Save Style', 'OK', 'Cancel', 'Apply', and 'Help'.

9. **THE UNDERSIGNED, JOHN JAMES HARRIS, OF THE COUNTY OF LOS ANGELES, STATE OF CALIFORNIA, DO HEREBY CERTIFY THAT THE FOREGOING IS A TRUE AND CORRECT TRANSLATION OF THE ABOVE-ENTITLED INSTRUMENT.**



11.

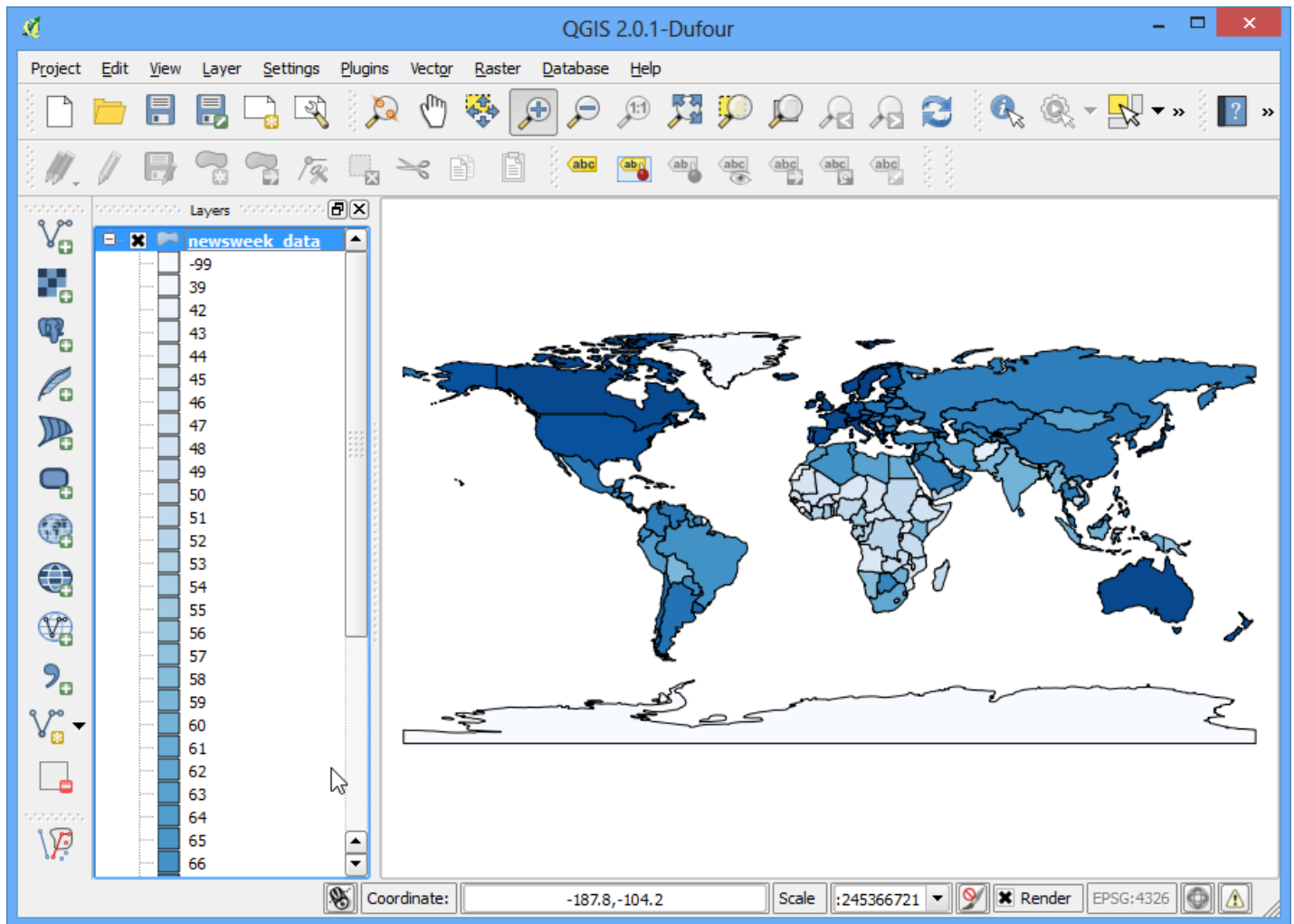
1. The first step is to open the 'Layer Properties' dialog for the layer you want to style. In this case, it's 'newswk_data'.

2. The 'Style' tab is selected. Under 'Layer rendering', the 'Categorized' method is chosen. The 'Column' dropdown is set to 'LIFEXPCT'.

3. The 'Symbol' dropdown is set to 'Change...' and the 'Color ramp' is set to 'Blues'.

4. A table of 18 categories is displayed, with values ranging from -99 to 56. The 'Classify' button is highlighted with a red box.

5. The 'OK' button is highlighted with a red box and a mouse cursor.



12. **Graduated** **Style** **classes** **3** **LOW, MEDIUM HIGH. LIFEXPCT Column** **3** **Mode options** **5** **Equal, Quantile, Natural (Jenks), Standard, Pretty** **10** **10**

- **0-100, 10** **0-10, 10-20, 20-30** **10**
- **100** **4** **25**
- **10** **10**

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Note

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Layer Properties - newweek_data

Style

Layer rendering

Layer transparency: 0

Layer blending mode: Normal

Feature blending mode: Normal

Graduated

Column: LIFEXPCT

Symbol: [Change...]

Color ramp: [source]

Classes: 3

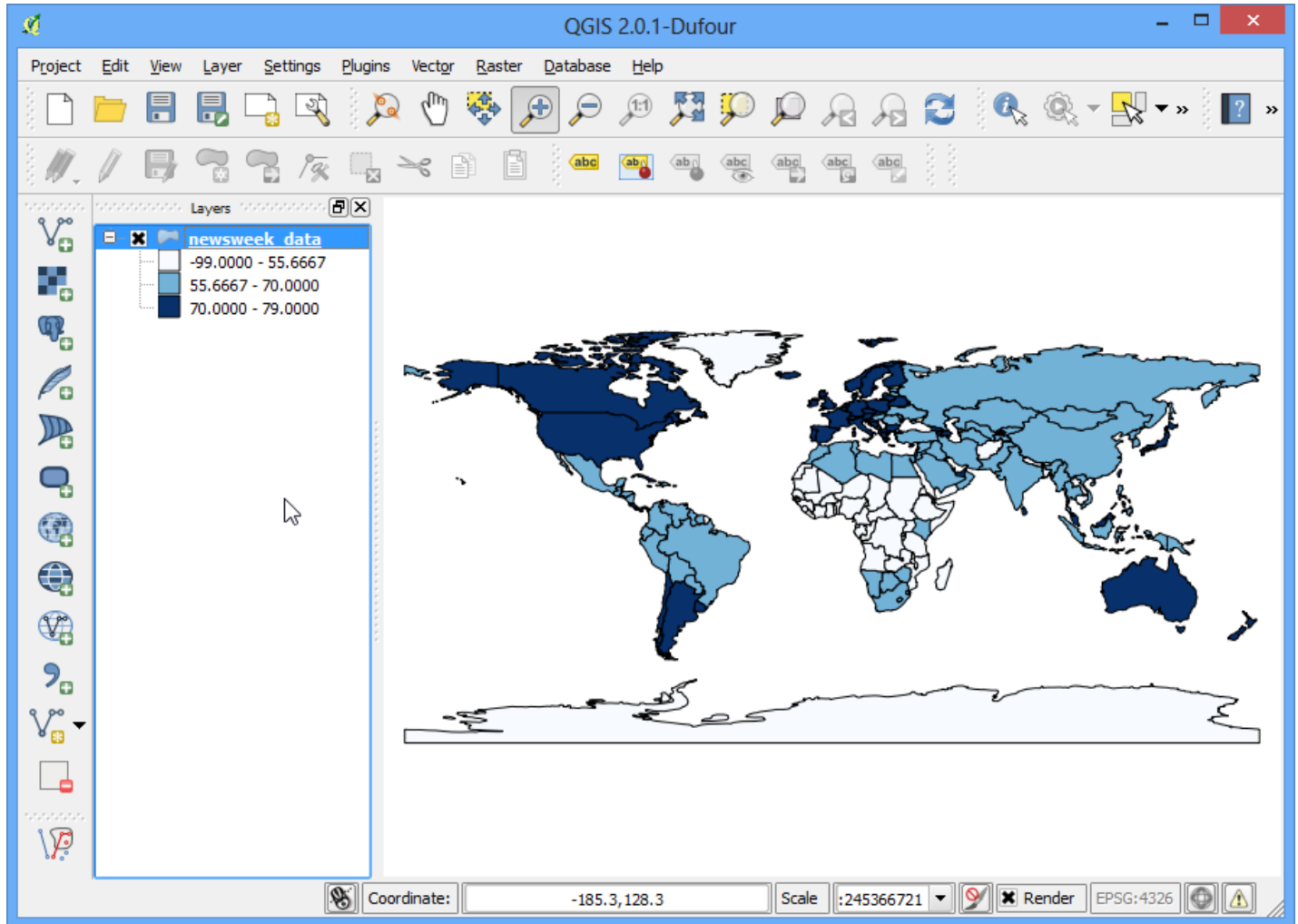
Mode: Quantile (Equal Count)

Symbol	Value	Label
[Symbol]	-99.0000 - 55.6667	-99.0000 - 55.6667
[Symbol]	55.6667 - 70.0000	55.6667 - 70.0000
[Symbol]	70.0000 - 79.0000	70.0000 - 79.0000

Classify Add class Delete Delete all Advanced

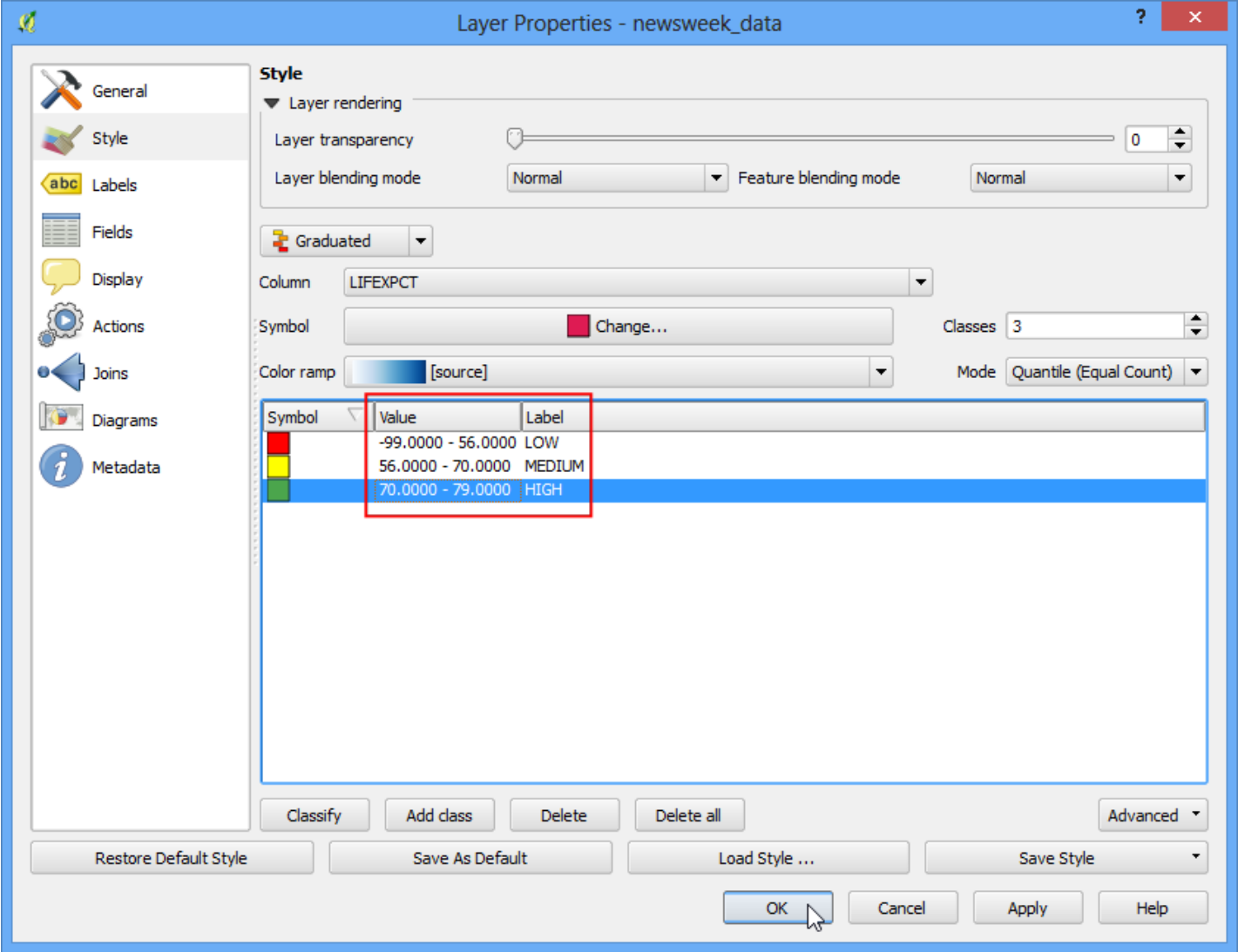
Restore Default Style Save As Default Load Style ... Save Style

OK Cancel Apply Help

[illegible]

14. **СООБЩАЮЩИЙ ЗАЯВЛЯЕТ, ЧТО НЕ ИМЕЕТ НИКАКИХ ОТНОШЕНИЙ К ПРЕДСТАВЛЯЕМЫМ ДОКУМЕНТАМ, НЕ СОВЕРШАЛ НИКАКИХ ДЕЙСТВИЙ ПО ОТНОШЕНИЮ К НИМ, НЕ ПОЛУЧАЛ НИКАКИХ ПОДСКАЗОК ИЛИ ПОМОЩИ В ОТНОШЕНИИ ИХ ПОИСКА ИЛИ ПОЛУЧЕНИЯ. НЕ ИМЕЕТ НИКАКИХ ОТНОШЕНИЙ К ЛИЦАМ, КОТОРЫЕ МОГУТ ИМЕТЬ ОТНОШЕНИЕ К ПРЕДСТАВЛЯЕМЫМ ДОКУМЕНТАМ, НЕ ПОЛУЧАЛ НИКАКИХ ПОДСКАЗОК ИЛИ ПОМОЩИ В ОТНОШЕНИИ ИХ ПОИСКА ИЛИ ПОЛУЧЕНИЯ. НЕ ИМЕЕТ НИКАКИХ ОТНОШЕНИЙ К ЛИЦАМ, КОТОРЫЕ МОГУТ ИМЕТЬ ОТНОШЕНИЕ К ПРЕДСТАВЛЯЕМЫМ ДОКУМЕНТАМ, НЕ ПОЛУЧАЛ НИКАКИХ ПОДСКАЗОК ИЛИ ПОМОЩИ В ОТНОШЕНИИ ИХ ПОИСКА ИЛИ ПОЛУЧЕНИЯ. НЕ ИМЕЕТ НИКАКИХ ОТНОШЕНИЙ К ЛИЦАМ, КОТОРЫЕ МОГУТ ИМЕТЬ ОТНОШЕНИЕ К ПРЕДСТАВЛЯЕМЫМ ДОКУМЕНТАМ, НЕ ПОЛУЧАЛ НИКАКИХ ПОДСКАЗОК ИЛИ ПОМОЩИ В ОТНОШЕНИИ ИХ ПОИСКА ИЛИ ПОЛУЧЕНИЯ.**

17. [REDACTED]



18. [REDACTED]

