

i Information about the exam

The exam consists of three parts.

Part 1. Five questions (25% of grade)

Part 2. One task (15% of grade)

Part 3. Two out of three essays (60% of grade)

i Part 1

Part 1. Five questions (25% of grade)

Answer ALL of the following questions.

1 Q1.1

Provide an overview of the volunteer GIS community and the open source and free GIS software. Mention some examples.

(max 150 words)

Type your answer here ...

Format | **B** | *I* | U | x_2 | x^2 | I_x | | | | | | | | | | | | |

Words: 0

Maks poeng: 0

2 **Q1.2**

Describe what is Global Positioning System (GPS) and why is it important in GIS.
(max 150 words)

Type your answer here ...

Format | **B** | *I* | U | x_2 | x^2 | I_x | | | | | | | Ω | | | Σ | ABC |

Words: 0

Maks poeng: 0

3 **Q1.3**

What is scale and how is it relevant when conducting spatial analyses?
(max 150 words)

Type your answer here ...

Format | **B** | *I* | U | x_2 | x^2 | I_x | | | | | | | Ω | | | Σ | ABC |

Words: 0













Maks poeng: 0

4 **Q1.4**

Some of the common misconceptions about GIS are that it is “simply a cartographic mapping program” or “just a software package with no theory”. Respond to these misconceptions.

(max 150 words)

Type your answer here ...

Format | **B** | *I* | U | x_2 | x^2 | I_x |  |  |  |  |  |  |  |  |  |  |  | 











Words: 0

Maks poeng: 0

5 **Q1.5**

What is a choropleth map? Why should people be careful when they interpret/read a choropleth map?
(max 150 words)

Type your answer here ...

Format - | **B** | *I* | U | x_2 | x^2 | I_x |  |  |  |  |  |  |  |  |  | Σ | ABC | 

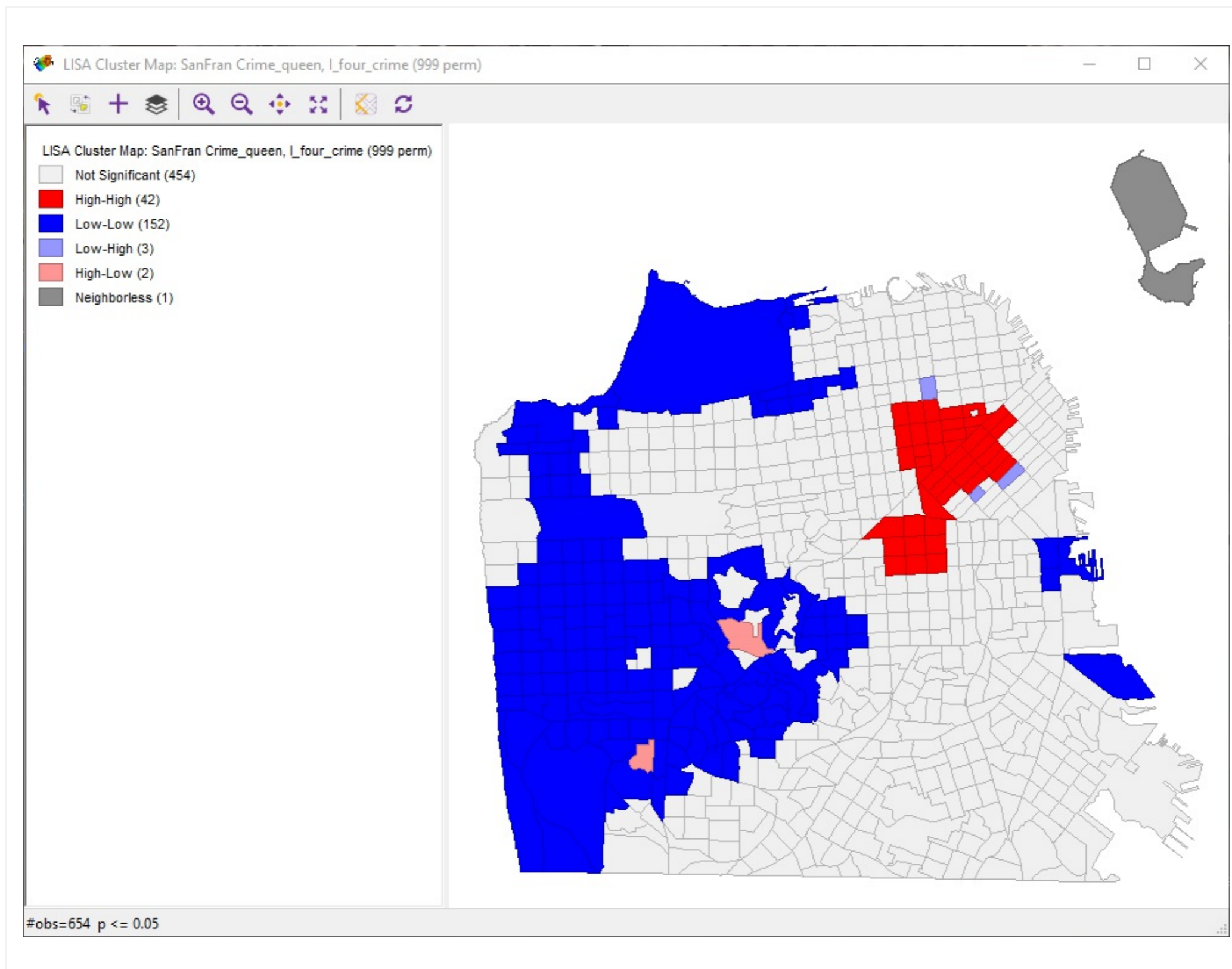
Words: 0

Maks poeng: 0

i **Part 2**

Part 2. Task (15% of grade)

6 **Q2**














Above you see a map with the local moran statistic for the crime rates in San Francisco, US.

1. Give a meaningful interpretation of the map.
2. There is one spatial unit (dark grey) without any neighbours in the dataset. Do you have any explanation why that could be the case?

(max 250 words)

Type your answer here ...

Format - | **B** *I* U x_2 x^2 | I_x |   |    |   | Ω  |  | Σ | ABC  | 

Words: 0/250

Maks poeng: 0

i Part 3

Part 3. Essays (60% of grade, each answer is worth 30%)

Please write an essay on **TWO** of the following three questions of your choosing (*max 600 words each*). **Leave the answer box of the other of the three questions blank.**

If you wish you may use references to the course literature articles (this is not necessary when it is a reference to the text book or the lectures).

7 **Q3.1**

GIS is carefully designed to handle data with spatial qualities. What is it that makes spatial data special?
(max 600 words)

Type your answer here ...

Format | **B** | *I* | U | x_2 | x^2 | I_x | | | | | | | | | | | |

Words: 0











Maks poeng: 0

8 **Q3.2**

Network analyses are powerful tools that are used to estimate optimal routes between locations. Present and discuss sources of error and uncertainty, and their implications when conducting a network analysis.

(max 600 words)

Type your answer here ...

Format | **B** | *I* | U | x_2 | x^2 | I_x |  |  |  |  |  |  |  |  |  | Σ | ABC | 

Words: 0

Maks poeng: 0













9 **Q3.3**

Despite the shortcomings, many world maps and most local maps are based on the Mercator projection and the Universal Transverse Mercator (UTM) system, accordingly.

1. Describe the main characteristics of the Mercator projection and its advantages and disadvantages comparing to other types of projections.
2. What is the UTM projection?
3. How do the distortions of the Mercator projection affect local maps, which are based on the UTM system?

(max 600 words)

Type your answer here ...

Format | **B** | *I* | U | x_2 | x^2 | I_x |  |  |  |  |  |  |  |  |  |  |  | 

Words: 0

Maks poeng: 0