

???

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- [?????](#)
- [?????](#)

?????

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  b: 30
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}]
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• ??

50, 50, 80

• ?????? Transform

????? fold ?

| ??     | ???   |
|--------|-------|
| ??     | ????  |
| ?????? | a,b   |
| ????   | item  |
| Key    | user  |
| Value  | score |

## • ??? Scale

score? Y? ?

| ??  | ???    |
|-----|--------|
| ??  | score  |
| ??  | linear |
| ??? | 0      |
| ??? | 80     |

## • ??? Axis

item? X? ?

| ??      | ???         |
|---------|-------------|
| ??      | item        |
| ??      | ??          |
| ?? - ?? | transparent |

## • ? Geom

???line?

| ??   | ???        |
|------|------------|
| ??   | item*score |
| ??   | ??         |
| ???? | user       |
| ??   | 2          |

???point?

| ??   | ???        |
|------|------------|
| ??   | item*score |
| ??   | ??         |
| ???? | user       |

|         |         |
|---------|---------|
| ??      | circle  |
| ??      | 4       |
| ?? - ?? | #ffffff |
| ?? - ?? | 1       |

???? area ?

|      |            |
|------|------------|
| ??   | ???        |
| ??   | item*score |
| ??   | ???        |
| ???? | user       |

• ?? Legend

|    |      |
|----|------|
| ?? | ???  |
| ?? | ??   |
| ?? | user |
| ?? | ?    |
| ?? | ??   |

• ??? Coord

|    |      |
|----|------|
| ?? | ???  |
| ?? | ???? |

?????

???

?????.png

???

• ???

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• ??

40, 40, 60, 60

• ??? Scale

x? X? ?

??

???



|        |        |
|--------|--------|
| ??     | x      |
| ??     | linear |
| ?????? | ??     |

• ??? Axis

y? y? ?

|    |     |
|----|-----|
| ?? | ??? |
| ?? | y   |
| ?? | ??  |

• ? Geom

???line?

|    |         |
|----|---------|
| ?? | ???     |
| ?? | x*y     |
| ?? | ??      |
| ?? | #ff8800 |
| ?? | 2       |

• ??? Coord

|    |      |
|----|------|
| ?? | ???  |
| ?? | ???? |