**PROBLEM**: Given a large number in base 36, find the value when its digits change places to produce the following:

1. The smallest possible number.
2. The largest possible number.
3. The 50th largest possible number.
4. The *k*th smallest possible number. You’ll be given the value of *k*.
5. The number closest to the mean of the first two answers above. If there is a tie, print both.

Express your answer in base 36, with no leading 0s. Base 36 uses the digits 0 through 9, followed by the letters A through Z.

**INPUT:** Two sets of data. Each set consists of a large integer (less than 10 digits) in base 36, followed by *k*, a positive integer in base 10. To avoid possible confusion when entering data, the inputs will not use the letters I or O.

**OUTPUT**: Print the 5 numbers as listed above. Do not print any leading 0s.

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| --- | --- |
| **SAMPLE INPUT** | **SAMPLE OUTPUT** |
| 1. 12FKA, 89 | 1. 12AFK |
| 1. 3BG4DH0, 2360 | 1. KFA21 |
|  | 1. AKF12 |
|  | 1. FAK12 |
|  | 1. AKF21 |
|  | 1. 34BDGH |
|  | 1. HGDB430 |
|  | 1. HG4DB03 |
|  | 1. B3G40HD |
|  | 1. B034DGH |

**TEST DATA**

***Answers must match the output exactly as shown, except the letters can be lower-case.***

***Output #5 requires both strings to receive credit; the strings can be printed in either order.***

|  |  |
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| **TEST INPUT:**   1. 123XYZ, 100 2. ACSL2016, 28823 | **TEST OUTPUT:**   1. 123XYZ 2. ZYX321 3. Z3YX12 4. 1Z2XY3 5. X123YZ *and* 3ZYX21 6. 126ACLS 7. SLCA6210 8. SLC2A601 9. CL01SA26 10. CSLA6210 |