Sorting

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Name | Run Time | When to use | Stability | In-place? |
| #Bubble | n^2 | Never | Y | Y |
| #Selection | n^2 | Cheaper to swap | N | Y |
| #Insertion | n+x | x= # out of order pairs | Y | Y |
| #Quick | nlg(n) | Default | N? | Almost |
| #Merge | nlg(n) | Default | Y | N |
| #Heap | nlg(n) | Default | X | Y |
| \*Counting | N |  | Y | N |
| \*Radix | r+n(d) |  | Y | N |
| \*Bucket | n |  | Y | N |

\* Special linear cases where you have so much information about the data you can use the case.  
# Comparison Based sorts: Values compared to each other.