Activity 1. Table of times for Floyd

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| --- | --- |
| **n (\*100)** | **t floyd (ms)** |
| 2 | 6.059 |
| 2^2 | 37.16 |
| 2^3 | 255.62 |
| 2^4 | 1705.7 |
| 2^5 | 13808.0 |
| 2^6 | 111212.0 |

If we double the size, the time multiplies by 23 = 8 (as the complexity of Floyd is O(n3)).

When n increases from 2 to 2², the time increases from about 6.06 ms to 37.16 ms (≈6.14× increase, close to 8).

Similarly, from 2² to 2³, time goes from 37.16 ms to 255.62 ms (≈6.88× increase).

Further increases follow this pattern; for example, from 2^5 to 2^6 the time increases from 13808.0 ms to 111212.0 ms (≈8.05× increase).

These experimental results closely match the expected cubic growth pattern, confirming that the algorithm's running time scales as O(n³). Minor deviations from the ideal factor of 8 can be attributed to system overhead, caching, and randomness.