

03_Illustration of Apriori Analysis

Important Conclusions

- 1) Time complexity is loop only
- 2) Not only loops \rightarrow Larger loops (i.e. n^2 or n)
- 3) No loop at all $\rightarrow O(1)$ constant time complexity

Examples:

The image shows handwritten notes on a dark background, illustrating the analysis of a while loop. On the left, a code snippet is written: `i = n`, `while i >= 1:`, `print i`, and `i = i - 2`. A bracket indicates the loop body runs $\frac{n}{2}$ times. Below this, $n = 40$ is written, with a bracket indicating 20 iterations. At the bottom left, the complexity is given as $O(n/2) = O(n)$. On the right, a sequence of values for i is listed: 20, 18, 16, 14, ..., 2. A vertical orange bracket spans from $i = 20$ to $i = 2$, with the text "10 times" to its right. Below the sequence, $i = 0$ is circled. An arrow points from the $\frac{n}{2}$ times annotation to the $i = 2$ value.

```

i = n
while i > 1:
    I i = i - 30
    i = i - 5
i = i - 35
    ↳  $n/35 = \underline{\underline{O(n)}}$ 

```