

## Reflection 2

CART 498 – GEN AI

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In any P+x version the variation in the value of x theoretically alters the semantic distance between the original text and the continuation expected by the GPT-2 model. When x is small (for example, P+1 to P+7), the substitutions tend to be high-probability tokens, which in theory might preserve grammar and semantic coherence. In my first version of P+7 (CODE 1), the token filters favored more probable continuations of the model, resulting in a ranking that included functional words and generic fillers. Therefore, in the second version of P+7 (CODE 2), words such as articles, pronouns, conjunctions, prepositions, and auxiliaries are filtered out, resulting in aesthetically more creative outputs.

In theory, as x value increases (for example, P+23-43 or P+150-160) in the ranking, candidates are still technically valid continuations but less aligned with the immediate context. Therefore, for such models (CODE 3 and CODE 4 in order), the same logic from the second version of P7 (CODE 2) was applied with the intention of obtaining candidates that are more semantically attractive outputs for the poem.

To implement a P+7 technique in which all nouns are replaced by their seventh-most likely alternatives:

1. Find all the nouns per line;
2. Remove all the nouns;
3. Print a version with removed nouns;
4. If the noun is singular, the candidates must be singular candidates, and the same logic applies to plural ones;
5. Ranking from 1 to 7 the highest possible noun candidates based on the phrase;
6. The user chooses the number that they want replaced;
7. Print the new poem.