

# NLP Project Report: Simple Text Inpainting System

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## 001 1 Introduction

002 The goal of this project is to implement a text in-  
003 painting system. In image generation models, in-  
004 painting means generating a specific part of the  
005 image and making the whole new picture that in-  
006 tegrates well with the area that is newly generated.  
007 Using this analogy, here we define text inpainting  
008 as the same task:

009 For some text materials, given a key word is  
010 changed to new word with different meaning,  
011 slightly modify the parts of the text other than the  
012 key word, to make the resulting sentence reason-  
013 able, while changing the original text to the least  
014 extent.

015 For example, the initial text:

016 "I hate eating ducks. They are my greatest fears."

017 The key word is chosen as "**hate**", and replaced  
018 with a new word "**love**". The resulting inpainted  
019 text would be :

020 "I love eating ducks. **They are my favorite**  
021 **food.**"

022 Note that the text "I love eating ducks. **Ducks**  
023 **are delicious.**" seems like a reasonable result, but  
024 the idea of text inpainting is to reduce the change  
025 of the original text as little as possible, so the latter  
026 sentence is not a good answer.

027 One application of text inpainting is presenting  
028 a new way of text modification and story rewrit-  
029 ing. It avoids unreasonable of modified text and  
030 save manual work for refining text. It is also useful  
031 for prompt-driven tasks, like Text2Image pipelines,  
032 serving as an efficient tool to generate variants of  
033 prompts. For example, simply changing the "realis-  
034 tic style" of the original prompt into "hand-drawn  
035 style", our model would automatically modify the  
036 prompt by changing related description details "on  
037 a table" into "on a sketchy paper".

038 Text filling and generation task is a popular topic,  
039 but few work has focused on the text inpainting task  
040 where the text regeneration is caused by changing

041 a simple key word and the original text information  
042 is kept to the maximum. In this work we designed  
043 and implemented a simple text inpainting system  
044 using simple easy sentences and zero shot learning,  
045 achieving fair performance and efficient workflow.  
046 We also demonstrated our method to get dataset  
047 and implement the system with limited time and  
048 resource, making use of LLM.

## 049 2 Data

### 050 2.1 Original Sentences

051 The original sentences of dataset would be more  
052 short, simple, daily living text dataset. The dataset  
053 are generated with ChatGPT<sup>1</sup>, with the prompt:

054 *please give me (number) short sentences about  
055 daily life, with a comma, and a little premise or rea-  
056 son in the sentence starting with "for", "because",  
057 and "so". Don't restrict to starting with "I". exam-  
058 ples: 1. I love go swimming in the summer, because  
059 I like water. 2. Ducks are not my favorite food, for I  
060 like beef best. 3. She loves going to the mountains,  
061 the silence and chill make her feel so relaxed.*

062 The key for the generation is there must be a  
063 premise included in each sentence, otherwise it  
064 would not be able to be judged by reasonability in  
065 inpainting task.

### 066 2.2 Key Words and Changed Sentences

067 For each sentence of the dataset, a word should  
068 be picked and replaced before the inpainting task.  
069 To choose a word and find its substitution, we use  
070 ChatGPT with this prompt:

071 *For each of the sentence below, please randomly  
072 choose a word (except nouns) in each sentence.  
073 Also, give a new word with opposite meaning. For  
074 example, choose "love" and give new word "hate",  
075 choose "never" and give new word "always", and  
076 print out the pair of chosen and new word. Please*

<sup>1</sup><https://chat.openai.com/>

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use a sequence number starting from 1 to indicate each pairs, like this format: "1. Chose:  
spilled, New word: kept"; sentence1, sentence2,  
sentence3.....

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Finally, we got a set of 200 original sentences. But we lose some sentences for they are not strictly divisible into "result" and "premise" with a comma. After selection, we got 164 original sentences, each paired with a 2-words set (chosen key word, new word), to be used as the dataset. Although ChatGPT makes it possible to get dataset intuitively and conveniently, the drawback of ChatGPT makes it hard to get large data corpus and often make mistakes with pairing (i.e, leave out some lines of sentence in prompts and give only 47 word pairs given 50 sentences). These drawbacks makes data generation a time consuming and slow task. Fortunately these data are enough to do experiment and show some results since we are using zero-shot learning in model building.

### 097 3 Related Work

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There are many work targeted for filling-in the blank tasks which is related to this task. Hossain et al. (Hossain et al., 2017) developed a computer-aided approach to humor generation, aiming to help a human player fill in the blanks of a Mad Lib story to make it funny.

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With respect to word correction and text refinement, Sakuntharaj el al. (Sakuntharaj and Mahesan, 2021) used N-grams to detect missing words and perform correction on the text.

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Some works targeting on missing text generation evaluation can also help build the model and serve as potential evaluation metric, including Celikyilmaz el al. (Celikyilmaz et al., 2020) whose work about a comprehensive survey of Natural language generation (NLG).

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Text filling and generation task is a popular topic, but few work has focused on the text inpainting task where the text regeneration is caused by changing a simple key word and the original text information is kept to the maximum. Comparing the former related works, the hardness of this project is that there are no existing source of rich data for text inpainting task and ground truth. As a result we try to use LLM to generate simple datasets and use zero-shot learning to build the system.

## 4 Methodology

We use FLAN-T5<sup>2</sup>, a pre-trained language model smaller than ChatGPT, and deploy the model with zero shot learning for text inpainting task. The reason for choosing these model is we need complex model (LLM) to perform such a generation task, also due to the good performance of text inpainting task of ChatGPT, it is valuable to design and test a smaller and cheaper model specifically on inpainting task for efficiency.

Specifically, we use *flan-t5-xl*. We construct a prompt, including two inputs for the model: 1) the original sentence; 2) the same sentence with the key word changed and the premise or result part masked. Example masked sentence:

*Original sentence: I received a compliment from a stranger, and it boosted my self-confidence.*

*Changed key words: compliment->insult.*

*Masked sentence: I received a insult from a stranger, <MASK>.*

Example prompt of the input into the model:<sup>3</sup>:

*Read sentence A and sentence B,*

*Complete the '<MASK>' part of sentence A , to fit the rest of the sentence and make up a reasonable sentence. Also, make the completed whole sentence as similar to the sentence B as possible. Return only the completed <MASK> part of sentence A.*

*Examples: Sentence A: I hate eating ducks, because they taste bad., sentence B: I love eating ducks,<MASK>, Return: because they taste good*

*Now read the following sentences and return the completed part of sentence A:*

*Sentence A: <MASK>, it never wakes me up.,*

*sentence B: The smell of coffee in the morning is one of my favorite things, it always wakes me up.*

The model tends to return only the completed <MASK> part. As a result, our system further construct the resulting inpainted sentence by replacing the <MASK> part of sentence A with model output.

We choose to build the model input this way because experiments show that T5 model is weak at the task "making a sentence reasonable while keeping the new word unchanged", we would discuss it in Section 8.

<sup>2</sup>[https://huggingface.co/docs/transformers/model\\_doc/flan-t5](https://huggingface.co/docs/transformers/model_doc/flan-t5)

<sup>3</sup>Note that in actual implementation the <MASK> is actually a blank underline.

## 170 5 Evaluation and Results

### 171 5.1 Evaluation Metric

172 **Metric1: How well preserved is the text struc-**  
 173 **ture.** For example, in the example of Section 1,  
 174 resulting text "I love eating ducks, They are a type  
 175 of bird." is also a reasonable result, but it intro-  
 176 duces a big change of text structure which should  
 177 be scored lower than the example "I love eating  
 178 ducks, They are my favorite food." Shown in Table  
 179 1, we use sentence similarity by Sentence Trans-  
 180 former models<sup>4</sup> to calculate the resemblance of the  
 181 inpainted and original sentence, with a float score  
 182 from 0-1, to see if the inpainting is good enough.

Table 1: Similarity between inpainting result sentences with original sentence: I received a compliment from a stranger, and it boosted my self-confidence. with "compliment" changed to "insult".

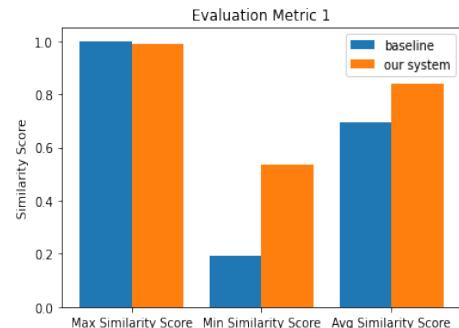
| Modified sentence   | Similarity |
|---|------------|
| "(Manual inpainting result)<br>I received an insult<br>from a stranger,<br>and it decreased<br>my self-confidence | 0.7424     |
| (Baseline inpainting result)<br>I received an insult<br>from a stranger,<br>feeling upset                         | 0.4931     |

183 **Metric2: How reasonable is the resulting text.**  
 184 If the generated text is not self-contradictory, then  
 185 it will be labeled as reasonable. Otherwise it will be  
 186 labeled self-contradictory. This metric can be fully  
 187 labeled by human user, but in this work we eval-  
 188 uate it by first applying ChatGPT, and go over the  
 189 self-contradictory sentences labeled by ChatGPT  
 190 by human user, to reduce unreasonable labeling of  
 191 ChatGPT. The prompt for self-contradictory sen-  
 192 tences labeling with ChatGPT is:

193 *In all the following sentences, find the sentences  
 194 that is self-contradictory by violating the informa-  
 195 tion in the sentence, and return and number them,  
 196 with reasons in brackets. (40 sentences as a batch)*

197 Note that this metric is only evaluating self-  
 198 contradiction given the premise information in the  
 199 sentence, instead of evaluating whether the sen-  
 200 tence is a common phenomenon. For example, the  
 201 following sentence is not a common phenomenon

<sup>4</sup>[https://www.sbert.net/docs/usage/semantic\\_textual\\_similarity.html](https://www.sbert.net/docs/usage/semantic_textual_similarity.html)



202 Figure 1: Evaluation Results on Metric 1.  
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but it is not self-contradictory: **I need to eat junk  
 204 food regularly, so that I can stay unhealthy.**

### 205 5.2 Baseline

206 Our baseline is ChatGPT, however without telling it  
 207 to "give a result most similar to original sentence",  
 208 we make it do a original sentence-blind sentence  
 209 completion task, with the premise or result part of  
 210 each sentence in the dataset masked. Example:  
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212 *Original sentence: I received a compliment from  
 213 a stranger, and it boosted my self-confidence.*

214 *Changed words: compliment->insult.*

215 *Masked sentence: I received a insult from a  
 216 stranger, blank.*

217 We feed these masked sentence set to ChatGPT,  
 218 with the prompt:

219 *For each sentence below, please make up the  
 220 missing part in the <MASK> space to make them  
 221 complete and reasonable. Better keep the sentence  
 222 structure like ", ". Please don't use empty lines  
 223 between results. sentence1, sentence2, sentence3,  
 224 .....*

### 225 5.3 Results

226 We evaluated our system and baseline results on the  
 227 metric 1 (sentence similarity score with the original  
 228 sentences), shown in Figure 1.

229 We evaluate our system and the baseline on  
 230 metric 2 by the proportion of self-contradictory  
 231 sentences in the result sentences. Using the  
 232 method introduced in Section 5.1, we find 34 self-  
 233 contradictory sentences in the results of our inpaint-  
 234 ing system, making the success score  $130/164 = 79.3\%$ . Accordingly, the baseline results can be  
 235 roughly estimated as 100%, for they are simple  
 reasonable sentences generated by ChatGPT.

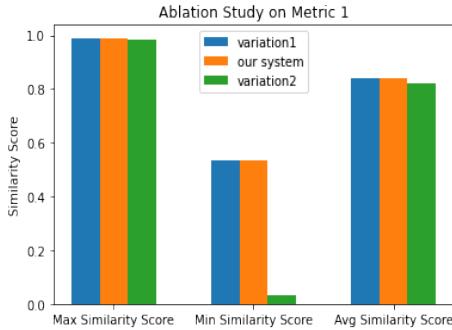


Figure 2: Ablation Study on Evaluation Metric 1.

#### 5.4 Ablation Study

We tested the performance of the variations of the inpainting system, by changing examples of the prompt input of the T5 model.

##### System variation1 (Moved the example position in the prompt)

Example prompt:

*Read the two sentences:*

*Sentence A: <MASK>, it never wakes me up., sentence B: The smell of coffee in the morning is one of my favorite things, it always wakes me up.*

*Complete the <MASK> part of sentence A, and keep the rest of the sentence to make it a reasonable sentence. Also, make the completed sentence as similar to the sentence B as possible.*

*Examples: Sentence A: I hate eating ducks, because they tastes bad., sentence B: I love eating ducks,<MASK> Return: I love eating ducks, because they tastes good.*

*Now return the completed sentence A.*

##### System variation2 (Removed the examples)

Example prompt: *Read the two sentences:*

*Sentence A: <MASK>, it never wakes me up., sentence B: The smell of coffee in the morning is one of my favorite things, it always wakes me up.*

*Complete the <MASK> part of sentence A, and keep the rest of the sentence to make it a reasonable sentence. Also, make the completed sentence as similar to the sentence B as possible. Return the completed sentence A.*

We calculated the score of our system and its variations, using metric 1 and metric 2. The results are shown in Figure 2 and Table 2.

Table 2: Ablation Study on Evaluation Metric 2.

| Our System | Variation1 |
|------------|------------|
| 79.2%      | 71.3%      |

## 6 Discussion

The inpainting system has met our expectation by generating overall reasonable results and outperformed the baseline on metric 1. The reason of this performance is that we let the T5 model generate results by referencing both the masked and the original sentence. Reasonably, it less-performed the baseline by metric2. This is also predictable since baseline results are generated by a much more complex LLM with more free condition. Also, some other issues that might cause the lower performance of our system in metric2 could be:

1) The bad key words choice in the dataset. For example, in the sentence "The sun was shining bright, so I put on sunscreen before going outside.", the key word "sunscreen" was changed to "sunburn", makes it hard to get a reasonable sentence further.

2) Unstability of T5 output. Our prompt instruct T5 model to output the completed masked part of sentence, so T5 model should always output only the masked part. Then we construct the final inpainting result by combining T5 output with masked sentence, but sometimes it causes the repetition of sentence when T5 somehow did output the whole sentence.

Another important thing to discuss is that our method for evaluating metric2 using ChatGPT is problematic to some level, since ChatGPT doesn't have an overall standard for evaluation. That means, even with same sentence sets, the selected self-contradictory sentences by ChatGPT can be different. We choose to use ChatGPT for more efficient evaluation, and review and edit the results of ChatGPT manually for precision, but there might be some self-contradictory sentences that is neglected. In conclusion, the experiments on metric2 can only serve as a reference.

## 7 Conclusion

In this work, we bring about the idea of text inpainting, and design a system for text inpainting task using simple easy sentences and zero shot learning. We demonstrate our method to get dataset and implement the system with limited time and resource, making use of LLM. We also conduct a set of evaluations to test the performance of our system. Results show that our inpainting system has fair performance and is easy and efficient comparing to baselines using ChatGPT.

## 8 Other Things We Tried

### Using ChatGPT to complete inpainting task

We tried to use ChatGPT to complete the inpainting task, example prompt:

*Change the word "love" in this following sentence to "hate", and change the sentence only a little bit, to make it reasonable: "I love eating ducks. They are my favorite food."*

Results show that ChatGPT can do the inpainting task very well. However, the limitation of ChatGPT is that it is not efficient to run and often fails to process large batch of sentences in one conversation. Given the inefficiency and high expense, using a smaller and more efficient LLM like FLAN-T5 becomes valuable.

### Design the prompt input of inpainting system differently

In our inpainting system with FLAN-T5, we tried to use different prompt design. Instead of giving the original sentence and masked (also key word changed) sentence, we only give the unmasked sentence with keywords changed, and ask the model to re-generate the sentence by keeping the changed key word. To make sure the changed key word is kept by the model, we put it into brackets. Example prompt 1:

*Modify the original sentence to the least extent to make the resulting sentence reasonable, but keep the parts inside the brackets unchanged.*

*Example: original sentence: 'I (hate) eating ducks. They are my favorite food.' modified sentence: 'I (hate) eating ducks. They are not my favorite food.' Return a modified sentence for this original sentence: I found a spider in my room, and had to call someone to (keep) it. You must print out the full sentence until the end</s>*

Example prompt2:

*Keeping the word in the brackets unchanged, modify the original sentence to the least extent to make the resulting sentence reasonable, but keep the parts inside the brackets unchanged.*

*Example: original sentence: 'I (hate) eating ducks. They are my favorite food.' Return: word in brackets: hate. modified sentence: 'I(hate) eating ducks. They are not my favorite food.'*

*Given this original sentence I (dislike) cooking with fresh ingredients from my garden, it makes the food taste better., Return the Modified sentence.*

However, the results are always disappointing since FLAN-T5 is unable to follow the instruction of keeping the changed key words in the brackets

as it is.

## 9 What You Would Have Done Differently or Next

**More dataset and human evaluation** Due to time limits in this work we only use about 200 sentences as dataset, but more dataset would be better for showing more solid results. Also, if there is more time, we would use human evaluation for metric2, as humans would have stable critique for deciding whether a sentence is reasonable or not, makes the results more convincing.

### Fine tune the LLM instead of using zero-shot

In this work we use a zero-shot learning for building the system. If we have more time and training data, we would try to fine tune FLAN-T5 model on inpainting task. However a challenge of this is to get both the original and well-inpainted sentences as training data. Currently the only ways to get well-inpainted sentences are by human or ChatGPT, but they are both unable to produce a large dataset, so we would lack ground truth for fine tune training.

## 10 Acknowledgments

We would like to thank Prof. David Jurens on his advice. Although it is still a pretty naive system without model training, his advice on using zero-shot makes the project workable given the hardness of getting data and ground truth.

## References

Asli Celikyilmaz, Elizabeth Clark, and Jianfeng Gao. 2020. Evaluation of text generation: A survey. *arXiv preprint arXiv:2006.14799*.

Nabil Hossain, John Krumm, Lucy Vanderwende, Eric Horvitz, and Henry Kautz. 2017. Filling the blanks (hint: plural noun) for mad libs humor. In *Proceedings of the 2017 Conference on Empirical Methods in Natural Language Processing*, pages 638–647.

Ratnasingam Sakuntharaj and Sinnathamby Mahesan. 2021. Missing word detection and correction based on context of tamil sentences using n-grams. In *2021 10th International Conference on Information and Automation for Sustainability (ICIAfS)*, pages 42–47. IEEE.

| Original Sentence                                     | Original & Changed Key words | Inpainted Sentence                                    |
|---|------------------------------|---|
| I hate eating beef, because they tastes bad.          | hate -> love                 | I love eating beef, because they taste good.          |
| I hate eating beef, because I love cows.              | hate -> love                 | I love eating beef, because I hate cows.              |
| I hate eating beef, because cows are cute.            | hate -> love                 | I love eating beef, because cows are ugly.            |
| I hate eating beef, no matter what other people say.  | hate -> love                 | I love eating beef, no matter what other people say.  |
| I hate eating beef, although it is tasty.             | hate -> love                 | I love eating beef, although it is expensive.         |
| I hate eating beef, no matter how tasty it is.        | hate -> love                 | I love eating beef, no matter how tasty it is.        |
| I hate eating beef, I refuse to eat it.               | hate -> love                 | I love eating beef, I eat it every day.               |
| I hate eating beef, even if you force me to eat it.   | hate -> love                 | I love eating beef, even if you force me to eat it.   |
| I hate eating beef, because cows are my good friends. | hate -> love                 | I love eating beef, because cows are my good friends. |
| I hate eating beef, because I have a cow as pet.      | hate -> love                 | I love eating beef, because I have a cow as pet.      |
| I hate eating beef, because I am a cow.               | hate -> love                 | I love eating beef, because I am a cow                |

Figure 3: Experiment to test the capacity of inpainting system. Blue indicates reasonable results and orange indicates unreasonable results.

## 410 11 A Supplemental Material

### 411 412 11.1 Demonstration on the capacity of text 413 inpainting system

414 To test our system, we conducted an experiment by  
415 using similar but different original sentences as see  
416 how well the inpainting system can work. Results  
417 (Figure 3) show that inpainting system can work  
418 well when the original sentence is more explicit  
without the need for reasoning.

### 419 11.2 Full dataset and results

## originalsentence

The smell<sup>of</sup> coffee in the morning is one of my favorite things, it always wakes me up. I always forget my keys, so I started leaving a spare with my neighbor. I don't like wearing makeup, but I do for special occasions. My dog always greets me with a wagging tail, no matter what kind of day I've had. I love taking long walks on the beach, listening to the sound of the waves. I can never decide what to wear in the morning, so I end up changing my outfit multiple times. I keep my snacks with fresh ingredients from my garden, it makes the food taste better. I prefer to read books in the sun because the smell of the pages is so satisfying. I hate doing laundry, but it's a necessary evil. I always make sure to drink plenty of water throughout the day, it keeps me hydrated. I love trying new foods when I travel, it's a great way to experience different cultures. I can never fall asleep without a blanket, no matter how hot it is. I like to meditate before bed, it helps me relax and clear my mind. There's nothing more relaxing than a warm bath after a long day. I enjoy going to the library to borrow books, it's a great way to unwind and enjoy some entertainment. I always wear sunglasses when it's sunny outside, it protects my eyes from the bright light. I prefer to take the stairs instead of the elevator, it's good exercise. I love the feeling of a freshly made bed, it's comfortable and cozy. I hate doing the dishes, but I know they won't clean themselves. I enjoy spending time with my family, it's important to stay connected with them. The alarm clock wakes me up, so I can catch my flight. Most mornings I wake up early, but I have already fed my dog. The sun was shining bright, so I put on sunscreen before going outside. I grabbed my umbrella, knowing it was going to rain. The traffic was terrible, which made me late for my meeting. The smell<sup>of</sup> coffee brewing filled the room, waking me up instantly. I put on my favorite playlist, to get me motivated for the day ahead. I received a package in the mail, it was a welcome surprise and it instantly brightened my day. The fridge was empty, so I had to go grocery shopping after work. I found a new pair of shoes on the street and clicked it up for goodwill. I put on my running shoes, ready for my daily jog. My phone battery was running low, so I plugged it in to charge. I heard a bird chirping outside my window, and it reminded me of nature's beauty. I packed my lunch for work, so I could save money and eat healthier. The sun was shining bright, so I sat at my desk comfortably hot. I read a book before going to bed, to help me unwind quickly. The faucet was leaking, so I called a plumber to fix it. I received a compliment from a stranger and it boosted my self-confidence. My favorite TV show was so I canceled my plans to watch it. I buried my toast, so I had to make a new one. Took a cool shower, to help me wake up and feel refreshed. The weather was nice, so I went for a walk in the park. Found a spider in my room, and had to call someone to remove it. I forgot my phone at home, and had to disconnect from the world. I ordered takeout for dinner, because I didn't feel like cooking. My place needed water, so I gave it time to keep healthy. I had a headache, took some medicine to ease the pain. Received a package in the mail, and felt better about the situation. The sun was shining bright, so I took a walk with a friend. I woke up to a beautiful sunrise, and felt grateful for another day. Lost my keys, and spent hours searching for them. The music was too loud, so I asked my neighbor to turn it down. I tried a new recipe for dinner, and turned out delicious. I accidentally spilled coffee on myself, and had to change before work. I saw a rainbow over the rain, and it filled me with joy. My phone was dead, so I charged it up quickly. I ironed clothes to charity, to declutter my closet and help others. I went for a walk in the park, to enjoy the fresh air and scenery. The power went out, so I had to use candles for light. I received a rejection letter, but decided to keep trying anyway. Visited my grandparents, to spend quality time with them. The car was having trouble, so I had to cancel an appointment. I missed my bus, and had to wait for the next one. Went to the gym, to stay healthy and fit. The mailman delivered a package, and it made my day. I spilled sauce on my shirt, and had to change before a meeting. Waking up early is hard for me, but I like having a peaceful morning. The smell<sup>of</sup> coffee always wakes me up, and I need it to start my day. Brushing my teeth before bed is optional, I often feel gross. I always have a smile on my face, it's a great way to feel happy. I prefer taking the stairs to the elevator, it's good exercise. Cooking dinner is therapeutic for me, and I enjoy experimenting with new recipes. I always listen to music while I work, it helps me focus. I love the feelings of a fresh, clean sofa sheetson my bed. Wearing comfortable clothes is a must, my feet get tired easily. I like to read before bed, it helps me relax and relax. I prefer to sleep in, so I can wake up later in the morning. I always carry a reusable water bottle with me, it helps me stay hydrated. I like to have a cup of tea in the afternoon, it's a nice pick-me-up. I always wear sunscreen when I go outside, to protect my skin. I like to journal before bed, it helps me reflect on my day and clear my mind. I always have books with me, it's a great way to pass the time. I prefer to eat dinner at home, it's a more relaxed and comfortable environment. I always make sure to take breaks, because it's good for my health. I prefer to have a healthy meal, I always sleep well. Forgetting my phone at home is always frustrating, because I need it for work. Because I have a busy schedule, I always make sure to plan my meals ahead of time. Somany people enjoy drinking coffee in the morning, because it helps them wake up. Exercise is a priority, because it helps me maintain my physical and mental health. Because I have a sweet tooth, I always make sure to eat healthy. Somany people enjoy taking a walk in the park, because it's a great way to feel relaxed. Forgetting to charge my phone overnight always causes problems, because I need it for work. Because I am always on the go, I make sure to pack snacks to keep my energy up. Somany people enjoy listening to music while they work, because it helps them focus. Getting a goodnight's sleep is crucial for me, because it helps me be productive and alert. Because I live in a busy city, I always wear noise-cancelling headphones to block out distractions. Somany people enjoy reading books before bed, it's a great way to relax. Forgetting to eat my breakfast always leaves me hungry, because I overeat. Because I have a long commute, I always make sure to download podcasts to listen to on the way. Somany people enjoy watching movies at home, because it's a great way to unwind after a long day. Staying hydrated is important for me, because it helps me feel more focused and energized. Because I work from home, I always make sure to take breaks to avoid burnout. Somany people enjoy going for a run in the morning, because it's a positive tone for the day. Forgetting to pay bills on time always causes stress and financial purchases. Because I have a long-to-do list, I always make sure to prioritize my tasks. Somany people enjoy spending time with friends and family, because it brings them happiness. Keeping my living space tidy is important, because it helps me feel more organized and less stressed. Because I have sensitive skin, I always make sure to wear sunscreen when I go outside. Somany people enjoy cooking meals from scratch, because it allows them to be creative. Forgetting to bring a jacket always leads to discomfort, because I get cold easily. Because I have a lot of responsibilities at work, I always make sure to delegate in some self-care time. Somany people enjoy taking a walk in the park, because it helps them feel relaxed. Having a daily routine is important, because it helps me stay on track and be productive. Because I live in a small apartment, I always make sure to declutter regularly to avoid feeling cramped. Somany people enjoy taking a break from technology, because it helps them feel more present and less stressed. Forgetting to buy groceries always leads to eating out, because I have nothing to cook at home. Because I have a sedentary job, I always make sure to take breaks to stretch and move around. Somany people enjoy working in an office, because it helps them feel more organized and efficient. 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## originalKey words and change

Inpainted sentence

The smell<sup>of</sup> coffee in the morning is one of my favorite things, it never wakes me up. I always forget my keys, I always leave them with my neighbor. I don't like wearing makeup, but I do it for special occasions. My dog never greets me with a wagging tail, no matter what kind of day I've had. I hate taking long walks on the beach, listening to the sound of the waves. I can never decide what to do with my hair in the morning, so I end up changing my hairstyle multiple times. I didn't cook with fresh ingredients from my garden, it makes the food taste worse. I prefer to trust brands for their quality, because the smell of the pages is so satisfying. I hate doing laundry, but it's a necessary evil. I always make sure to drink plenty of water throughout the day, it keeps me hydrated. I love trying new foods when I travel, it's a great way to experience different cultures. I can never fall asleep without a blanket, no matter how hot it is. I like to meditate before bed, it helps me relax and clear my mind. There's nothing more relaxing than a warm bath after a long day. I enjoy going to the library to borrow books, it's a great way to unwind and enjoy some entertainment. I always wear sunglasses when it's sunny outside, it protects my eyes from the bright light. I prefer to take the stairs instead of the elevator, it's good exercise. I love the feeling of a freshly made bed, it's comfortable and cozy. I hate doing the dishes, but I know they won't clean themselves. I enjoy spending time with my family, it's important to stay connected with them. The alarm clock wakes me up, so I can catch my flight. The sun was shining bright, so I put on sunscreen before going outside. I grabbed my umbrella, knowing it was going to rain. The traffic was terrible, which made me late for my meeting. The smell<sup>of</sup> coffee brewing filled the room, waking me up instantly. I put on my favorite playlist, to get me motivated for the day ahead. I received a package in the mail, it was a welcome surprise and it instantly brightened my day. The fridge was empty, so I had to go grocery shopping after work. I found a new pair of shoes on the street and clicked it up for goodwill. I put on my running shoes, ready for my daily jog. My phone battery was running low, so I plugged it in to charge. I heard a bird chirping outside my window, and it reminded me of nature's beauty. I packed my lunch for work, so I could save money and eat healthier. The sun was shining bright, so I sat at my desk comfortably hot. I read a book before going to bed, to help me unwind quickly. The faucet was leaking, so I called a plumber to fix it. I received a compliment from a stranger and it boosted my self-confidence. My favorite TV show was so I canceled my plans to watch it. I buried my toast, so I had to make a new one. Took a cool shower, to help me wake up and feel refreshed. The weather was nice, so I went for a walk in the park. Found a spider in my room, and had to call someone to remove it. I forgot my phone at home, and had to disconnect from the world. I ordered takeout for dinner, because I didn't feel like cooking. My place needed water, so I gave it time to keep healthy. I had a headache, took some medicine to ease the pain. Received a package in the mail, and felt better about the situation. The sun was shining bright, so I took a walk with a friend. I woke up to a beautiful sunrise, and felt grateful for another day. Lost my keys, and spent hours searching for them. The music was too loud, so I asked my neighbor to turn it down. I tried a new recipe for dinner, and turned out delicious. I accidentally spilled coffee on myself, and had to change before work. I saw a rainbow over the rain, and it filled me with joy. My phone was dead, so I charged it up quickly. I ironed clothes to charity, to declutter my closet and help others. I went for a walk in the park, to enjoy the fresh air and scenery. The power went out, so I had to use candles for light. I received a rejection letter, but decided to keep trying anyway. Visited my grandparents, to spend quality time with them. The car was having trouble, so I had to cancel an appointment. I missed my bus, and had to wait for the next one. Went to the gym, to stay healthy and fit. The mailman delivered a package, and it made my day. I spilled sauce on my shirt, and had to change before a meeting. Waking up early is hard for me, but I like having a peaceful morning. The smell<sup>of</sup> coffee always wakes me up, and I need it to start my day. Brushing my teeth before bed is optional, I often feel gross. I always have a smile on my face, it's a great way to feel happy. I prefer taking the stairs to the elevator, it's good exercise. Cooking dinner is therapeutic for me, and I enjoy experimenting with new recipes. I always listen to music while I work, it helps me focus. I love the feelings of a fresh, clean sofa sheetson my bed. Wearing comfortable clothes is a must, my feet get tired easily. I like to read before bed, it helps me relax and relax. I prefer to sleep in, so I can wake up later in the morning. I always carry a reusable water bottle with me, it helps me stay hydrated. I like to have a cup of tea in the afternoon, it's a nice pick-me-up. I always wear sunscreen when I go outside, to protect my skin. I like to journal before bed, it helps me reflect on my day and clear my mind. I always have books with me, it's a great way to pass the time. I prefer to eat dinner at home, it's a more relaxed and comfortable environment. I always make sure to take breaks, because it's good for my health. I prefer to have a healthy meal, I always sleep well. Forgetting my phone at home is always frustrating, because I need it for work. Because I have a busy schedule, I always make sure to plan my meals ahead of time. Somany people enjoy drinking coffee in the morning, because it helps them wake up. Exercise is a priority, because it helps me maintain my physical and mental health. Because I have a sweet tooth, I always make sure to eat healthy. Somany people enjoy taking a walk in the park, because it's a great way to feel relaxed. Forgetting to charge my phone overnight always causes problems, because I need it for work. Because I am always on the go, I make sure to pack snacks to keep my energy up. Somany people enjoy listening to music while they work, because it helps them focus. Getting a goodnight's sleep is crucial for me, because it helps me be productive and alert. Because I live in a busy city, I always wear noise-cancelling headphones to block out distractions. Somany people enjoy reading books before bed, it's a great way to relax. 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