In [1]:

```python
import re
from collections import Counter
def load_text_file(file_path):
    try:
        with open(file_path, 'r', encoding='utf-8') as file:
            return file.read()
    except FileNotFoundError:
        print("Error: File not found.")
        return ""
    except Exception as e:
        print(f"Error: {e}")
        return ""
def tokenize(text):
    # Splitting text by whitespace and filtering out non-alphanumeric characters
    tokens = [word.lower() for word in re.split(r'\s+', text) if word.isalnum()]
    return tokens

# Function to calculate term frequency (TF)
def calculate_tf(tokens):
    total_tokens = len(tokens)
    if total_tokens == 0:
        return {}
    token_counts = Counter(tokens)
    return token_counts

# Function to display the top N most frequent tokens
def display_top_tokens(token_counts, n=5):
    print(f"Top {n} most frequent tokens:")
    for token, count in token_counts.most_common(n):
        print(f"{token}: {count}")

# Main function to process the file and display results
def main():
    file_path = input("Enter the path of the text file: ")
    text = load_text_file(file_path)
    if not text:
        return

    tokens = tokenize(text)
    token_counts = calculate_tf(tokens)
    display_top_tokens(token_counts)

if __name__ == "__main__":
    main()
```

```
Enter the path of the text file: C:\\Users\\ruchi\\OneDrive\\Desktop\\sample.txt
Top 5 most frequent tokens:
is: 3
ai: 2
and: 2
artificial: 1
intelligence: 1
```

In [ ]: