```python
def capitalize_first_and_last(string):
    words = string.split()
    capitalized_words = []

    for word in words:
        if len(word) == 1:
            capitalized_word = word.upper()
        else:

            capitalized_word = word[0].upper() + word[1:-1] + word[-1].upper()
        capitalized_words.append(capitalized_word)

    return ' '.join(capitalized_words)


input_string = "hello world this is python"
result = capitalize_first_and_last(input_string)
print("Original string:", input_string)
print("Transformed string:", result)
```