**Assignment: Sorting File Paths in Python**

**Objective**

Write a Python program to sort a list of file paths in a natural, human-readable order.

**Problem Statement**

You are provided with a list of file paths. The goal is to sort these file paths such that they appear in a logical numerical order, similar to how they would be organized in a file manager.

Given list:

python

Copy code

file\_paths = [

'static\\pdf\\01 Adsolut initiatie\\page\_1.pdf',

'static\\pdf\\01 Adsolut initiatie\\page\_10.pdf',

'static\\pdf\\01 Adsolut initiatie\\page\_11.pdf',

'static\\pdf\\01 Adsolut initiatie\\page\_12.pdf',

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'static\\pdf\\01 Adsolut initiatie\\page\_6.pdf',

'static\\pdf\\01 Adsolut initiatie\\page\_7.pdf',

'static\\pdf\\01 Adsolut initiatie\\page\_8.pdf',

'static\\pdf\\01 Adsolut initiatie\\page\_9.pdf'

]

**Instructions**

1. **Understand the Problem:**
   * The list contains file paths with pages named in a mixed numerical order.
   * Your task is to sort these paths in a natural order, such that page\_1.pdf comes before page\_2.pdf, which comes before page\_10.pdf, and so on.
2. **Implement the Sorting:**
   * Write a function that takes the list of file paths and returns a new list sorted in natural order.
   * You may find it useful to use regular expressions and/or the natsort module to achieve this.
3. **Expected Output:**
   * The sorted list should appear as follows:

python

Copy code

[

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'static\\pdf\\01 Adsolut initiatie\\page\_2.pdf',

'static\\pdf\\01 Adsolut initiatie\\page\_3.pdf',

'static\\pdf\\01 Adsolut initiatie\\page\_4.pdf',

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**Submission**

Submit a Python file (.py) containing your implementation of the sorting function. Ensure your code is well-commented and follows PEP 8 guidelines.

**Hints**

* Consider using the re module for regular expressions to extract the numeric parts of the file names.
* The natsort module can help with natural sorting if you choose to use it. Install it using pip install natsort.

**Sample Solution (for reference only, do not submit this code)**

python

Copy code

import re

def natural\_sort\_key(s):

return [int(text) if text.isdigit() else text.lower() for text in re.split('(\d+)', s)]

file\_paths = [

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