Slicing exercises

January 11, 2021

```python
[1]: import sys
     sys.path.append("../")
     from ortho_lib3_Copy2 import *
```

```python
[2]: def write_file(df, newfilename):
         """
         Write a new file for the new dataframe according to the raw data samples
         """
         with open(newfilename, 'w') as nfn:
             for index, row in df.iterrows():
                 nfn.write(str(row['sensor']) + '  ' + str(row['x']) + '  ' +
     ↪str(row['y']) + '  ' + str(row['z']) + '\n\n')
                 nfn.write('  ' + str(row['x0']) + '  ' + str(row['y0']) + '  ' +
     ↪str(row['z0']) + '\n\n')
                 nfn.write('  ' + str(row['x1']) + '  ' + str(row['y1']) + '  ' +
     ↪str(row['z1']) + '\n\n')
                 nfn.write('  ' + str(row['x2']) + '  ' + str(row['y2']) + '  ' +
     ↪str(row['z2']) + '\n\n\n\n')
```

```python
[10]: def find_name(filename):
          n = filename
          for i in range(1,10):
              if os.path.isfile(n):
                  print(n)
                  n = (n[:-5] + str(int(n[-5])+1) + n[-4:])
              else:
                  break
          return n
```

```python
[29]: import csv
      filename = "../Excel/cat_4_test.xlsx"

      slices = pd.read_excel(filename)

      slices = slices.set_index('Patient')
      slices = slices.fillna(-1)
      slices = slices.astype('int')
```

```
slices
d = slices.to_dict('index')
d
```

[29]: {13: {'AB1_start': 1,
  'AB1_end': 140,
  'AB2_start': 9,
  'AB2_end': 153,
  'AF1_start': 8,
  'AF1_end': 74,
  'AF2_start': 6,
  'AF2_end': 65,
  'EL1_start': 7,
  'EL1_end': 49,
  'EL2_start': -1,
  'EL2_end': -1,
  'RF1_start': 4,
  'RF1_end': 42,
  'RF2_start': 6,
  'RF2_end': 32},
 28: {'AB1_start': 2,
  'AB1_end': 42,
  'AB2_start': -1,
  'AB2_end': -1,
  'AF1_start': 4,
  'AF1_end': 45,
  'AF2_start': -1,
  'AF2_end': -1,
  'EL1_start': 4,
  'EL1_end': 27,
  'EL2_start': -1,
  'EL2_end': -1,
  'RF1_start': 3,
  'RF1_end': 24,
  'RF2_start': -1,
  'RF2_end': -1},
 37: {'AB1_start': 1,
  'AB1_end': 47,
  'AB2_start': 1,
  'AB2_end': 31,
  'AF1_start': 1,
  'AF1_end': 59,
  'AF2_start': 5,
  'AF2_end': 39,
  'EL1_start': 2,
  'EL1_end': 27,
  'EL2_start': 1,
```

```
          'EL2_end': 25,
          'RF1_start': 1,
          'RF1_end': 32,
          'RF2_start': 2,
          'RF2_end': 24}}
```

```
[30]: files = FilesCategory('../data/Category_4')
      new_dir = '../sliced_original_testdata/Category_4'
      ex_types = ['AB', 'AF', 'RF', 'EL']

      for p in files.get_patient_ids():
          if p in d:
              for e in files.get_exercises(p):
                  if e[:2] in ex_types:
                      path = files.fullpath(p, e)
                      df = exercise_to_df_with_rotation(path)

                      start = d[p][e[:3]+'_start']
                      end = d[p][e[:3]+'_end']

                      if start == -1:
                          continue

                      sdf = df[(df['frame'] >= start) & (df['frame'] <= end)]

                      directory = os.path.join(new_dir, str(p))
                      filename = os.path.join(new_dir, str(p), e[:2] + str(1) + '.
       ↪txt')

                      if not os.path.exists(directory):
                          os.makedirs(directory)

                      newfilename = find_name(filename)
                      write_file(sdf, newfilename)

                      print('wrote file: ' + newfilename)
```

```
wrote file: ../sliced_original_testdata/Category_4/13/AB1.txt
../sliced_original_testdata/Category_4/13/AB1.txt
wrote file: ../sliced_original_testdata/Category_4/13/AB2.txt
wrote file: ../sliced_original_testdata/Category_4/13/AF1.txt
../sliced_original_testdata/Category_4/13/AF1.txt
wrote file: ../sliced_original_testdata/Category_4/13/AF2.txt
wrote file: ../sliced_original_testdata/Category_4/13/EL1.txt
wrote file: ../sliced_original_testdata/Category_4/13/RF1.txt
../sliced_original_testdata/Category_4/13/RF1.txt
wrote file: ../sliced_original_testdata/Category_4/13/RF2.txt
```

```
wrote file: ../sliced_original_testdata/Category_4/37/AB1.txt
../sliced_original_testdata/Category_4/37/AB1.txt
wrote file: ../sliced_original_testdata/Category_4/37/AB2.txt
wrote file: ../sliced_original_testdata/Category_4/37/AF1.txt
../sliced_original_testdata/Category_4/37/AF1.txt
wrote file: ../sliced_original_testdata/Category_4/37/AF2.txt
wrote file: ../sliced_original_testdata/Category_4/37/EL1.txt
../sliced_original_testdata/Category_4/37/EL1.txt
wrote file: ../sliced_original_testdata/Category_4/37/EL2.txt
wrote file: ../sliced_original_testdata/Category_4/37/RF1.txt
../sliced_original_testdata/Category_4/37/RF1.txt
wrote file: ../sliced_original_testdata/Category_4/37/RF2.txt
wrote file: ../sliced_original_testdata/Category_4/28/AB1.txt
wrote file: ../sliced_original_testdata/Category_4/28/AF1.txt
wrote file: ../sliced_original_testdata/Category_4/28/EL1.txt
wrote file: ../sliced_original_testdata/Category_4/28/RF1.txt
```