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IST 652, Week 5

Activity 5.3: Data Stacking and Unstacking

Code:

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﻿# 5.3 - Data Stacking and Unstacking

import pandas as pd

import numpy as np

# create a person dataframe

persondict = {'person':['Bob','Alice','Steve'],'age':[32,24,64],'weight':[128,86,95]}

personDF = pd.DataFrame(persondict, columns = ['person', 'age', 'weight'])

# 1. Index by person

personDF = personDF.set\_index('person')

personDF

# 2. Stack into a tall object

# sort of like a melt in R (note)

result = personDF.stack()

result.shape

result.index

# 3. reset the index

personTall = result.reset\_index()

# 4. rename the columns to 'person', 'attribute', 'value'

personTall.columns = ['person', 'attribute', 'value']

personTall

# 5. convert back to the original using unstack

personOrig = result.unstack()

personOrig

# 6. pivot

personPivot = personTall.pivot('person', 'attribute', 'value')

personPivot

Output:

Out[133]:

age weight

person

Bob 32 128

Alice 24 86

Steve 64 95

Out[137]: (6,)

Out[138]:

MultiIndex([( 'Bob', 'age'),

( 'Bob', 'weight'),

('Alice', 'age'),

('Alice', 'weight'),

('Steve', 'age'),

('Steve', 'weight')],

names=['person', None])

Out[143]:

person attribute value

0 Bob age 32

1 Bob weight 128

2 Alice age 24

3 Alice weight 86

4 Steve age 64

5 Steve weight 95

Out[146]:

age weight

person

Bob 32 128

Alice 24 86

Steve 64 95

Out[149]:

attribute age weight

person

Alice 24 86

Bob 32 128

Steve 64 95