Gabriel, John Michael C. *Programming Assignment*

2ECE-E *Experiment 9: Data Wrangling Using Pandas*

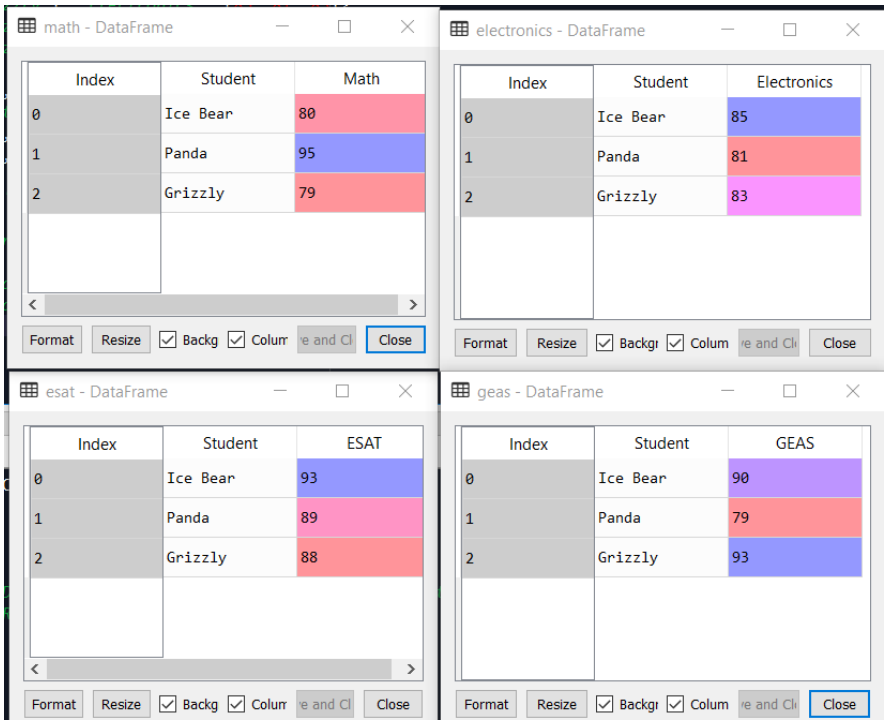
Screenshots of Codes

Problem 1: First five and last five rows

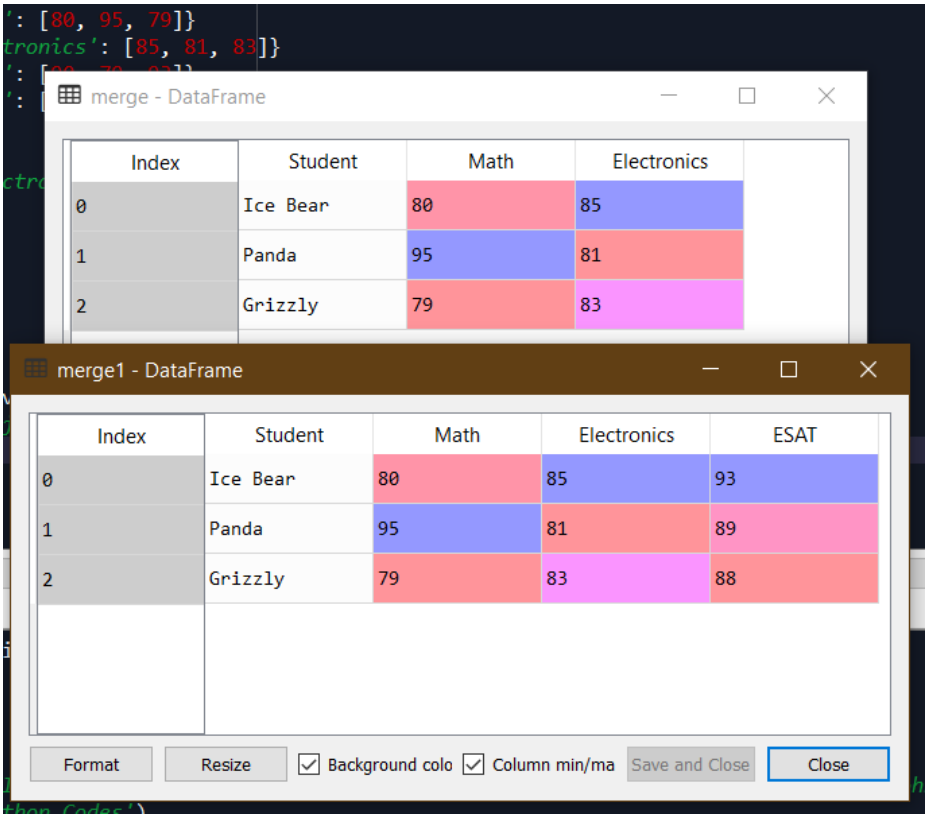
Exp9Prob1.py* Exp9Prob2.py

```
1 import pandas as pd
2 data1= {'Student': ['Ice Bear', 'Panda', 'Grizzly'], 'Math': [80, 95, 79]}
3 data2= {'Student': ['Ice Bear', 'Panda', 'Grizzly'], 'Electronics': [85, 81, 83]}
4 data3= {'Student': ['Ice Bear', 'Panda', 'Grizzly'], 'GEAS': [90, 79, 93]}
5 data4= {'Student': ['Ice Bear', 'Panda', 'Grizzly'], 'ESAT': [93, 89, 88]}
6
7 math= pd.DataFrame(data1, columns= ['Student', 'Math'])
8 electronics= pd.DataFrame(data2, columns= ['Student', 'Electronics'])
9 esat= pd.DataFrame(data4, columns= ['Student', 'ESAT'])
10 geas= pd.DataFrame(data3, columns= ['Student', 'GEAS'])
11
12 merge= pd.merge(math,electronics, on='Student')
13 merge1= pd.merge(merge, esat, on='Student')
14 bear_grades= pd.merge(merge1, geas, on='Student')
15
16 longbear = pd.melt(bear_grades, id_vars= 'Student', value_vars= ['Math','Electronics','ESAT','GEAS'])
17 newbear_grades = longbear.rename(columns= {'variable':'Subject', 'value':'Grades'})
18
```

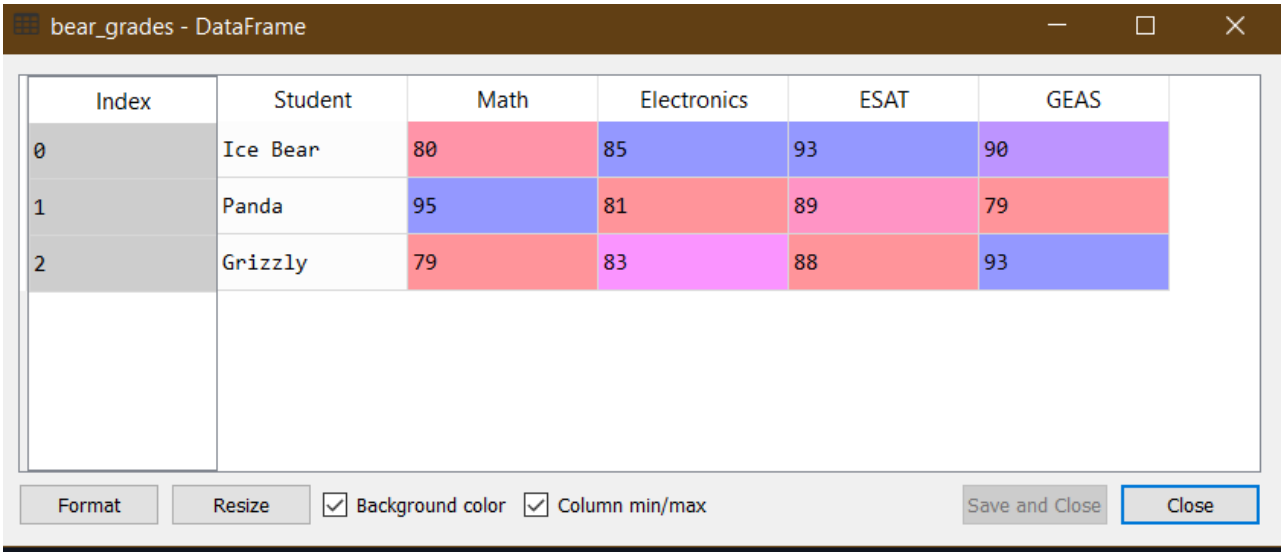
Editor Window



DataFrames



Merging Process



Merged DataFrames

longbear - DataFrame

Index	Student	variable	value
0	Ice Bear	Math	80
1	Panda	Math	95
2	Grizzly	Math	79
3	Ice Bear	Electronics	85
4	Panda	Electronics	81
5	Grizzly	Electronics	83
6	Ice Bear	ESAT	93
7	Panda	ESAT	89
8	Grizzly	ESAT	88
9	Ice Bear	GEAS	90
10	Panda	GEAS	79
11	Grizzly	GEAS	93

Format Resize Backgroun Column mi ave and Clos Close

Long Format

newbear_grades - DataFrame

Index	Student	Subject	Grades
0	Ice Bear	Math	80
1	Panda	Math	95
2	Grizzly	Math	79
3	Ice Bear	Electronics	85
4	Panda	Electronics	81
5	Grizzly	Electronics	83
6	Ice Bear	ESAT	93
7	Panda	ESAT	89
8	Grizzly	ESAT	88
9	Ice Bear	GEAS	90
10	Panda	GEAS	79
11	Grizzly	GEAS	93

Format Resize Background Column min ave and Close Close

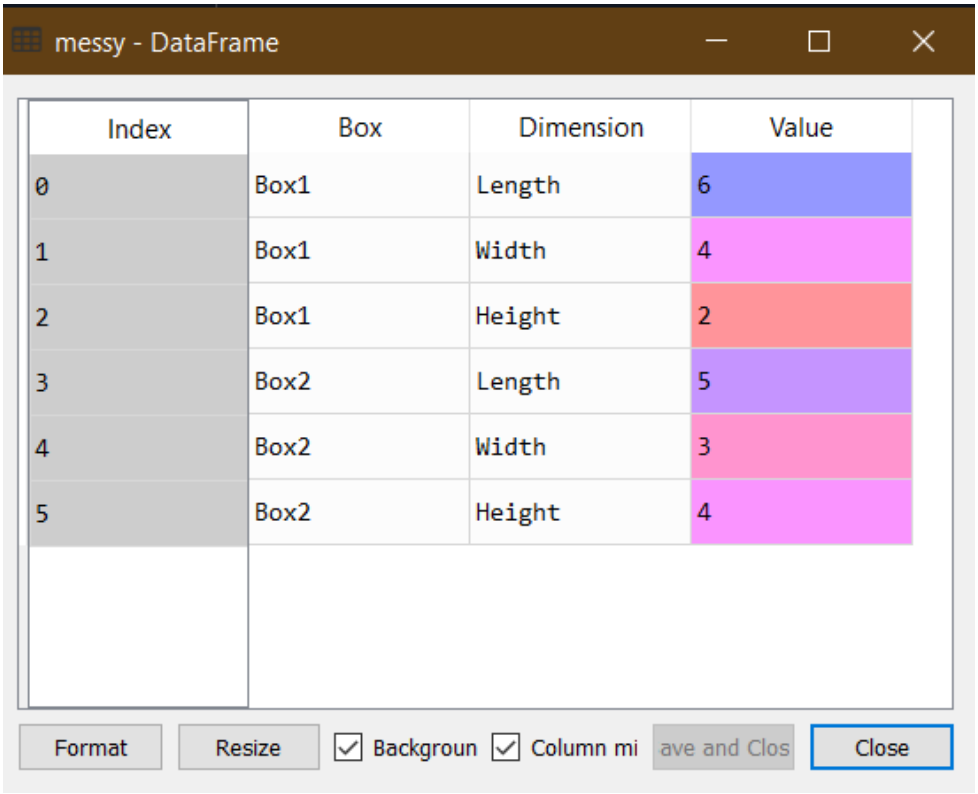
Renamed Columns

Problem 2:

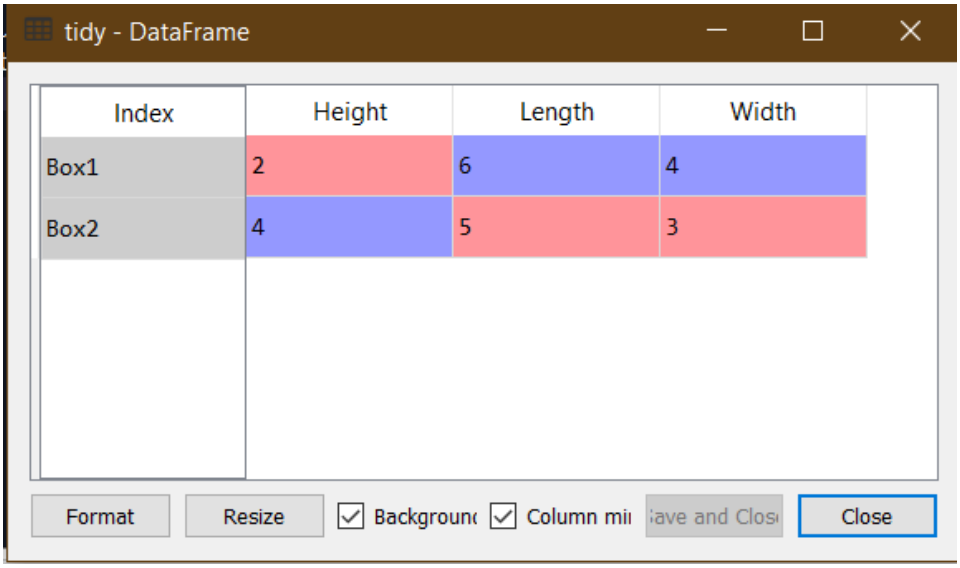
Exp9Prob1.py | Exp9Prob2.py*

```
1 import pandas as pd
2 data = {'Box': ['Box1', 'Box1', 'Box1', 'Box2', 'Box2', 'Box2'], 'Dimension': ['Length', 'Width', 'Height',
3 'Length', 'Width', 'Height'], 'Value': [6,4,2,5,3,4]}
4 messy = pd.DataFrame(data, columns= ['Box','Dimension','Value'])
5 tidy = messy.pivot_table(index=['Box'], columns='Dimension', values='Value')
6 tidyfinal = messy.pivot_table(index=['Box'], columns='Dimension', values='Value').reset_index()
7 tidyfinal['Volume'] = tidyfinal.Height*tidyfinal.Length*tidyfinal.Width
8
```

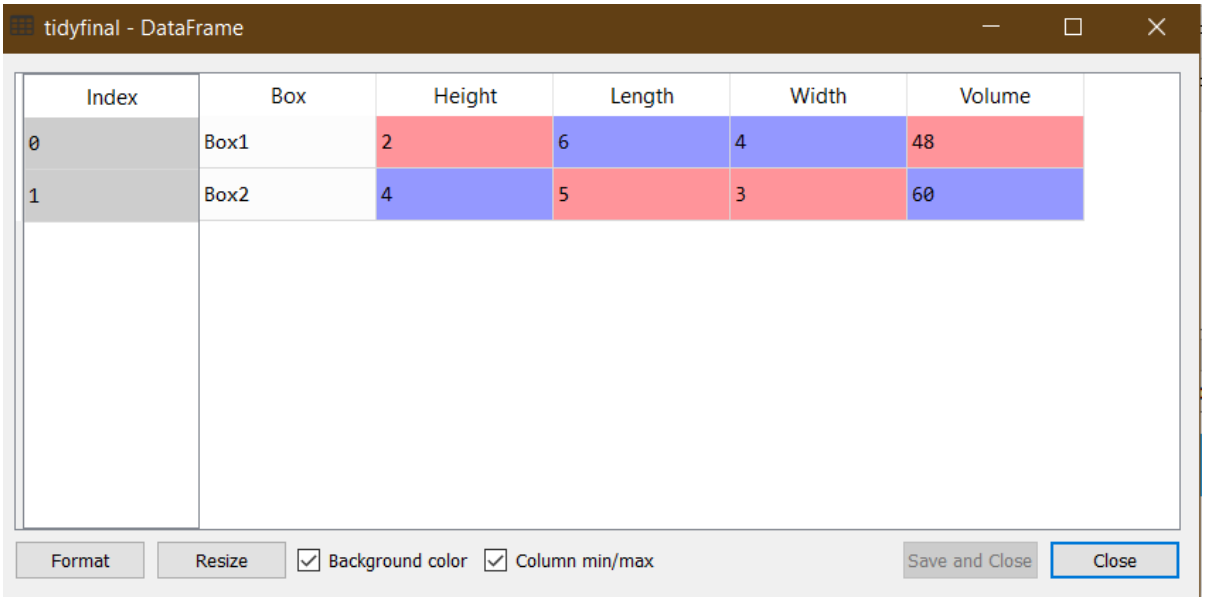
Editor Window



Messy DataFrame



Tidy DataFrame



Tidy DataFrame with Volume