

# CODE COMPARISON

A simple exercise to find item sold the most in each Region:  
Code Compiled and Run in Python/ SQL/R

Order Date	Region	Representative	Item	Units	Unit Cost	Total
1/6/18	East	Jones	Pencil	95	1.99	189.05
1/23/18	Central	Kivell	Binder	50	19.99	999.50
2/9/18	Central	Jardine	Pencil	36	4.99	179.64
2/26/18	Central	Gill	Pen	27	19.99	539.73
3/15/18	West	Sorvino	Pencil	56	2.99	167.44
4/1/18	East	Jones	Binder	60	4.99	299.40
4/18/18	Central	Andrews	Pencil	75	1.99	149.25
5/5/18	Central	Jardine	Pencil	90	4.99	449.10
5/22/18	West	Thompson	Pencil	32	1.99	63.68
6/8/18	East	Jones	Binder	60	8.99	539.40
6/25/18	Central	Morgan	Pencil	90	4.99	449.10
7/12/18	East	Howard	Binder	29	1.99	57.71
7/29/18	East	Parent	Binder	81	19.99	1,619.19
8/15/18	East	Jones	Pencil	35	4.99	174.65
9/1/18	Central	Smith	Desk	2	125.00	250.00
9/18/18	East	Jones	Pen Set	16	15.99	255.84
10/5/18	Central	Morgan	Binder	28	8.99	251.72
10/22/18	East	Jones	Pen	64	8.99	575.36
11/8/18	East	Parent	Pen	15	19.99	299.85
11/25/18	Central	Kivell	Pen Set	96	4.99	479.04
12/12/18	Central	Smith	Pencil	67	1.29	86.43
12/29/18	East	Parent	Pen Set	74	15.99	1,183.26
1/15/19	Central	Gill	Binder	46	8.99	413.54
2/1/19	Central	Smith	Binder	87	15.00	1,305.00
2/18/19	East	Jones	Binder	4	4.99	19.96
3/7/19	West	Sorvino	Binder	7	19.99	139.93
3/24/19	Central	Jardine	Pen Set	50	4.99	249.50
4/10/19	Central	Andrews	Pencil	66	1.99	131.34
4/27/19	East	Howard	Pen	96	4.99	479.04
5/14/19	Central	Gill	Pencil	53	1.29	68.37
5/31/19	Central	Gill	Binder	80	8.99	719.20
6/17/19	Central	Kivell	Desk	5	125.00	625.00
7/4/19	East	Jones	Pen Set	62	4.99	309.38
7/21/19	Central	Morgan	Pen Set	55	12.49	686.95
8/7/19	Central	Kivell	Pen Set	42	23.95	1,005.90
8/24/19	West	Sorvino	Desk	3	275.00	825.00
9/10/19	Central	Gill	Pencil	7	1.29	9.03
9/27/19	West	Sorvino	Pen	76	1.99	151.24
10/14/19	West	Thompson	Binder	57	19.99	1,139.43
10/31/19	Central	Andrews	Pencil	14	1.29	18.06
11/17/19	Central	Jardine	Binder	11	4.99	54.89
12/4/19	Central	Jardine	Binder	94	19.99	1,879.06
12/21/19	Central	Andrews	Binder	28	4.99	139.72

Region	Item	sum
<chr>	<chr>	<dbl>
1 Central	Pencil	498
2 West	Pencil	88
3 East	Binder	234

## PYTHON:

```
> import pandas as pd
> d=pd.read_excel("SampleData.xlsx")
> d= d[["Region","Item","Units"]]
> d.groupby(["Region","Item"]).sum().group
by(["Region"])[["Units"].nlargest(1)
```

## SQL:

```
SELECT Region, Item, MostSold FROM
(SELECT Region, Item, sum(Units) AS MostSold
FROM SampleData GROUP BY Region, Item
ORDER BY Region) AS x
GROUP BY Region
```

## R:

```
library(tidyverse)
library(readxl)
df<- read_xlsx("SampleData.xlsx")
df%>%
select (Region, Item, Units) %>%
group_by (Region,Item) %>%
mutate(sum=sum(Units)) %>%
select(-Units) %>%
unique() %>%
group_by(Region) %>%
mutate(most_sold=max(sum),
mostSold_item=(sum==most_sold))%>%
filter(mostSold_item==TRUE) %>%
select(-most_sold,-mostSold_item)
```