Using the table df below, create a table df2 that has the 20 lowest prices, for only rows with sales less then 250 and greater than 100:

| | Fruit | Price | Sales | Date |
|---|---|---|---|---|
| 6 | Apple | 2 | 140 | Jan-1-2017 |
| 3 | Orange | 2 | 400 | May-10-2017 |
| 2 | Grapes | 5 | 180 | Feb-5-2017 |
| 0 | Plums | 2 | 300 | Mar-7-2017 |
| 4 | Peaches | 6 | 120 | Apr-12-2017 |
| 1 | Water Melon | 5 | 180 | Nov-18-2017 |
| 5 | Pineapple | 4 | 60 | Jul-13-2017 |

Selected Answer:
```
#begin
dft = df[(df['Sales']<250) & (df['Sales']>100)]
df2 = dft.sort_values('Prices')
df2 = dft2.head(20)
#end
```

Correct Answer:
```
#begin
dft = df[(df['Sales']<250) & (df['Sales']>100)]
df2 = dft.sort_values('Prices')
df2 = dft2.head(20)
#end
```

Using the confusion matrix below, what is the precision of a? Write the answer in a fraction form, for example 2/4, write 2/4. Do not simplify the fraction.

| | a | b | c |
|---|---|---|---|
| a | 4 | 1 | 0 |
| b | 1 | 5 | 2 |
| c | 2 | 2 | 5 |

Selected Answer: 3/17

Correct Answer:

| Evaluation Method | Correct Answer | Case Sensitivity |
|---|---|---|
| Exact Match | 4/7 | |

## Question 2

Using the table df below, create a table df2 that has the 20 lowest prices, for only rows with sales less then 250 and greater than 100:

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## Question 3

The OvO methodology is the default methodology for the RandomForestClassifier WHEN the target data is categorical.

Selected Answer: False

Correct Answer: False

## Question 4

Given the array thresholds, precisions and recalls from precision_recall_curve function. Identify the thresholds (if they exists) such that you would have a precision of 90% and recall of 90%.

Selected Answer: B. thresholds[(precisions[:-1]>=.9) & (recalls[:-1]>=.9)]

Correct Answer: B. thresholds[(precisions[:-1]>=.9) & (recalls[:-1]>=.9)]

## Question 5

You have a project where you are trying to identify the high quality houses using online data about the houses, for the purpose of buying the houses. You don't lose money by missing good houses to purchase, but you do lose money if you buy bad houses. What is more important, a high precision or a high recall?

Selected Answer: High precision

Correct Answer: High precision

**Question 6**

Given the following code:

```
x=np.random.permutation(4)
```

where x's values is [2,0,3,1]

what is y:

```
a=np.array([40,30,20,10])
b=a[x[0:2]]
c=a[x[2:4]]

y=c[0]
```

Selected Answer: 10
Correct Answer: 10
Answer range +/- 0 (10 - 10)

**Question 7**

Choose the code that uses the Stochastic Gradient Classifier to do a 2 fold manual accuracy test. Assume that the variable datatrain and targettrain are your data and target training data containers, and that there are 100,000 data elements.

Selected Answer:

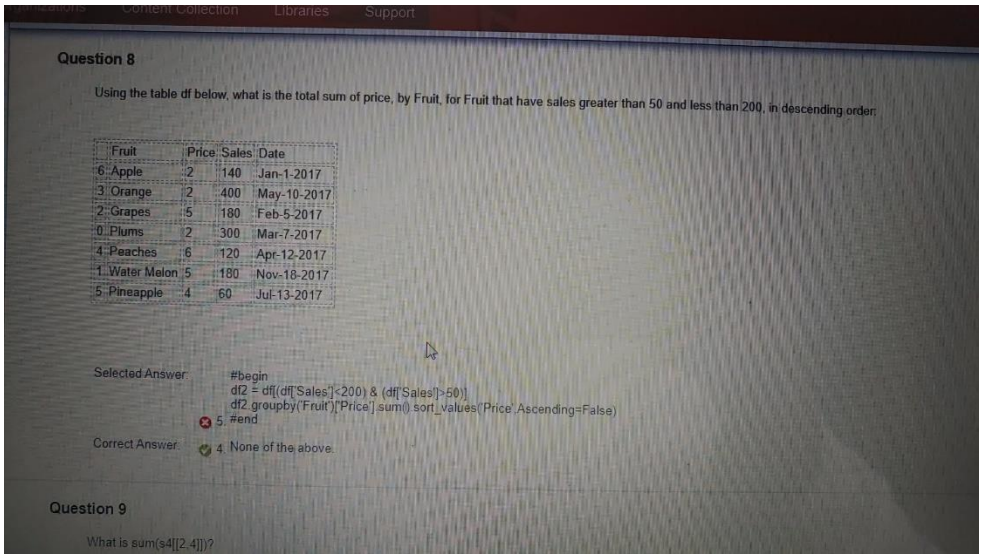
```
sgd = SGDClassifier(random state=100)
shuffle = np.random.permutation(100000)
dt1 = datatrain[shuffle[0:50000]]
dt2 = datatrain[shuffle[50000:100000]]
target1 = targettrain[shuffle[0:50000]]
target2 = targettrain[shuffle[50000:100000]]
sgd.fit(dt1, target1)
pred1 = sgd.predict(dt1)
ncorrect = sum(pred1==target1)
ncorrect/len(pred1)
sgd.fit(dt2, target1)
pred2 = sgd.predict(dt2)
ncorrect = sum(pred2==target2)
```

B. ncorrect/len(pred2)

Correct Answer:

```
sgd = SGDClassifier(random state=100)
shuffle = np.random.permutation(100000)
dt1 = datatrain[shuffle[0:50000]]
target1 = targettrain[shuffle[0:50000]]
dt2 = datatrain[shuffle[50000:100000]]
target2 = targettrain[shuffle[50000:100000]]
sgd.fit(dt1, target1)
pred1 = sgd.predict(dt2)
ncorrect = sum(pred1==target2)
ncorrect/len(pred1)
sgd.fit(dt2, target2)
pred2 = sgd.predict(dt1)
ncorrect = sum(pred2==target1)
```

A. ncorrect/len(pred2)



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**Question 8**

Using the table df below, what is the total sum of price, by Fruit, for Fruit that have sales greater than 50 and less than 200, in descending order:

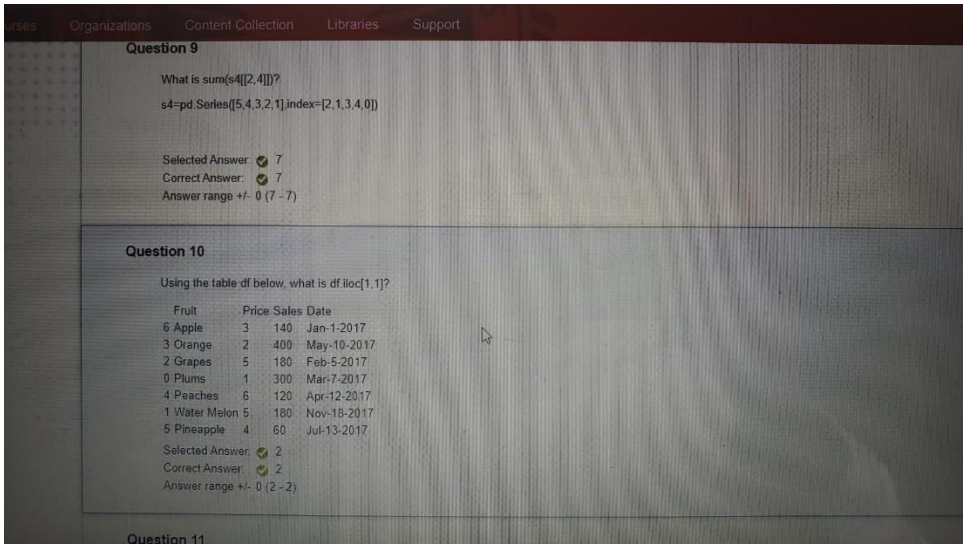
| | Fruit | Price | Sales | Date |
|---|---|---|---|---|
| 6 | Apple | 2 | 140 | Jan-1-2017 |
| 3 | Orange | 2 | 400 | May-10-2017 |
| 2 | Grapes | 5 | 180 | Feb-5-2017 |
| 0 | Plums | 2 | 300 | Mar-7-2017 |
| 4 | Peaches | 6 | 120 | Apr-12-2017 |
| 1 | Water Melon | 5 | 180 | Nov-18-2017 |
| 5 | Pineapple | 4 | 60 | Jul-13-2017 |

Selected Answer:
```
#begin
df2 = df[(df['Sales']<200) & (df['Sales']>50)]
df2.groupby('Fruit')['Price'].sum().sort_values('Price',Ascending=False)
#end
```
5

Correct Answer: 4 None of the above

**Question 9**

What is sum(s4[[2,4]])?



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**Question 9**

What is sum(s4[[2,4]])?

s4=pd.Series([5,4,3,2,1],index=[2,1,3,4,0])

Selected Answer: 7
Correct Answer: 7
Answer range +/- 0 (7 - 7)

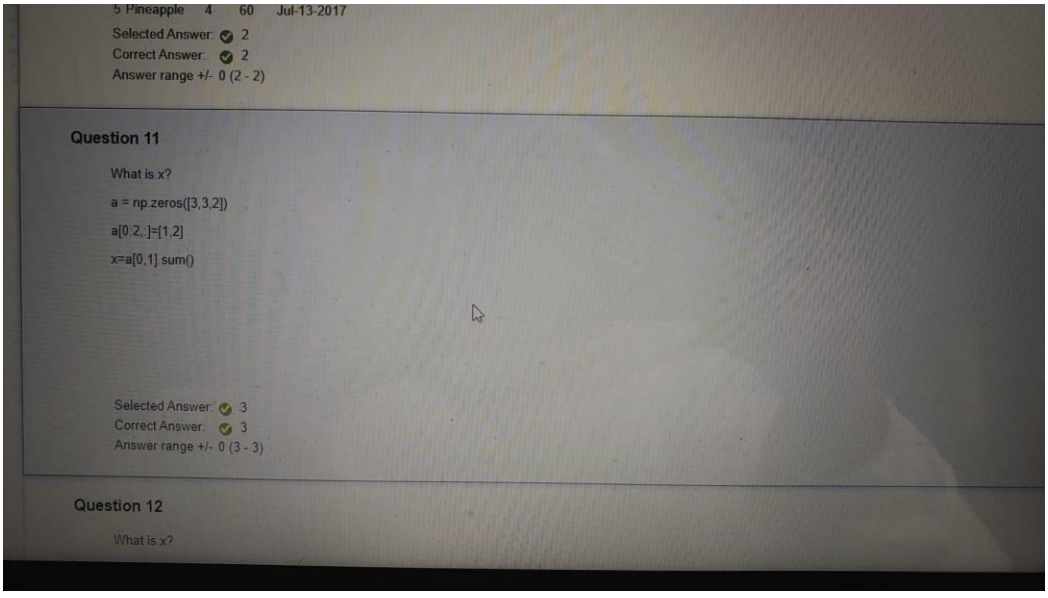
**Question 10**

Using the table df below, what is df.iloc[1,1]?

| | Fruit | Price | Sales | Date |
|---|---|---|---|---|
| 6 | Apple | 3 | 140 | Jan-1-2017 |
| 3 | Orange | 2 | 400 | May-10-2017 |
| 2 | Grapes | 5 | 180 | Feb-5-2017 |
| 0 | Plums | 1 | 300 | Mar-7-2017 |
| 4 | Peaches | 6 | 120 | Apr-12-2017 |
| 1 | Water Melon | 5 | 180 | Nov-18-2017 |
| 5 | Pineapple | 4 | 60 | Jul-13-2017 |

Selected Answer: 2
Correct Answer: 2
Answer range +/- 0 (2 - 2)

**Question 11**



5 Pineapple 4 60 Jul-13-2017

Selected Answer: 2
Correct Answer: 2
Answer range +/- 0 (2 - 2)

**Question 11**

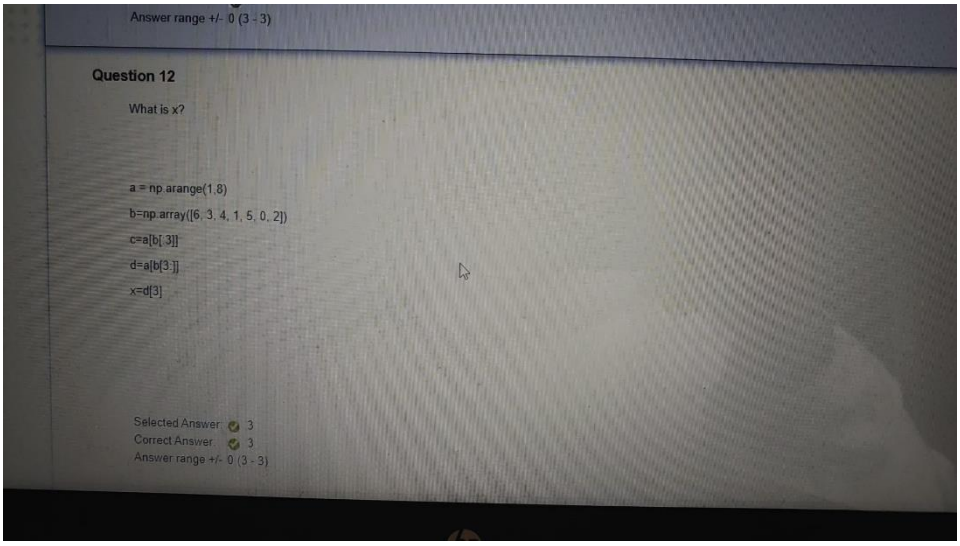
What is x?

```
a = np.zeros([3,3,2])
a[0:2,:,]=[1,2]
x=a[0,1].sum()
```

Selected Answer: 3
Correct Answer: 3
Answer range +/- 0 (3 - 3)

**Question 12**

What is x?



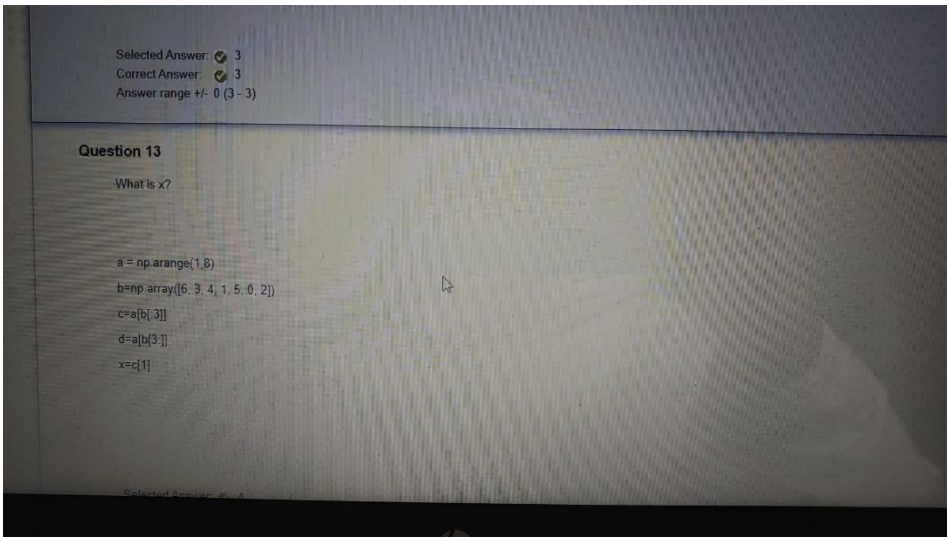
Answer range +/- 0 (3 - 3)

**Question 12**

What is x?

```
a = np.arange(1,8)
b=np.array([6, 3, 4, 1, 5, 0, 2])
c=a[b[:3]]
d=a[b[3:]]
x=d[3]
```

Selected Answer: 3
Correct Answer: 3
Answer range +/- 0 (3 - 3)

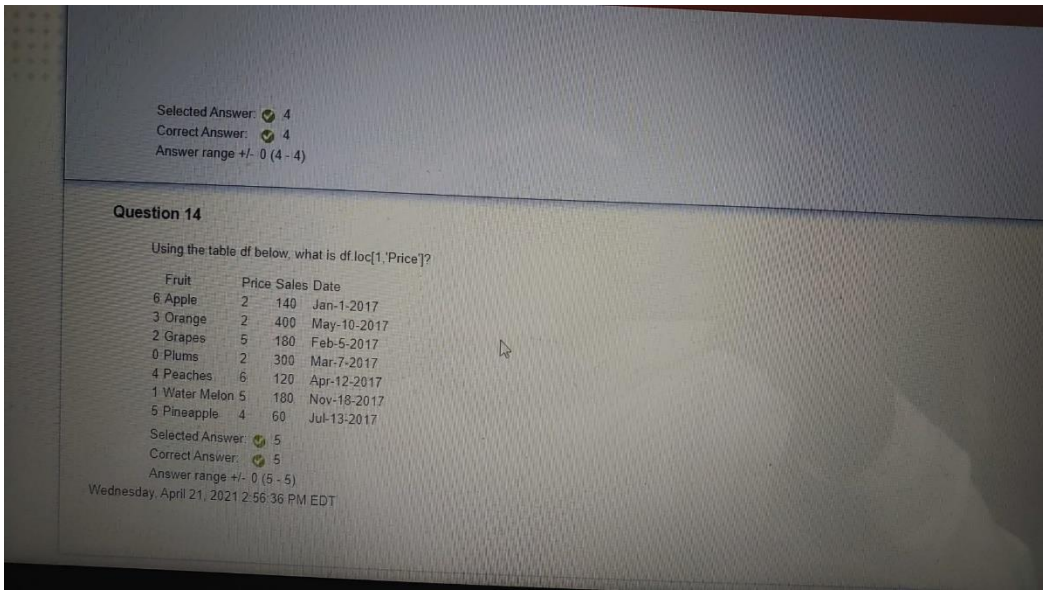


Selected Answer: 3
Correct Answer: 3
Answer range +/- 0 (3 - 3)

**Question 13**

What is x?

```
a = np.arange(1,8)
b=np.array([6, 3, 4, 1, 5, 0, 2])
c=a[b[:3]]
d=a[b[3:]]
x=c[1]
```



Selected Answer: 4
Correct Answer: 4
Answer range +/- 0 (4 - 4)

**Question 14**

Using the table df below, what is df.loc[1,'Price']?

| | Fruit | Price | Sales | Date |
|---|---|---|---|---|
| 6 | Apple | 2 | 140 | Jan-1-2017 |
| 3 | Orange | 2 | 400 | May-10-2017 |
| 2 | Grapes | 5 | 180 | Feb-5-2017 |
| 0 | Plums | 2 | 300 | Mar-7-2017 |
| 4 | Peaches | 6 | 120 | Apr-12-2017 |
| 1 | Water Melon | 5 | 180 | Nov-18-2017 |
| 5 | Pineapple | 4 | 60 | Jul-13-2017 |

Selected Answer: 5
Correct Answer: 5
Answer range +/- 0 (5 - 5)

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