

## MLP

Section Id :	64065323908
Section Number :	12
Section type :	Online
Mandatory or Optional :	Mandatory
Number of Questions :	20
Number of Questions to be attempted :	20
Section Marks :	50
Display Number Panel :	Yes
Group All Questions :	No
Enable Mark as Answered Mark for Review and Clear Response :	Yes
Maximum Instruction Time :	0
Sub-Section Number :	1
Sub-Section Id :	64065355384
Question Shuffling Allowed :	No

**Question Number : 187 Question Id : 640653386845 Question Type : MCQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 0**

Question Label : Multiple Choice Question

THIS IS QUESTION PAPER FOR THE SUBJECT "DIPLOMA LEVEL: MACHINE LEARNING PRACTICE"

ARE YOU SURE YOU HAVE TO WRITE EXAM FOR THIS SUBJECT?

CROSS CHECK YOUR HALL TICKET TO CONFIRM THE SUBJECTS TO BE WRITTEN.

(IF IT IS NOT THE CORRECT SUBJECT, PLS CHECK THE SECTION AT THE TOP FOR THE SUBJECTS REGISTERED BY YOU)

**Options :**

6406531286463. ✓ YES

6406531286464. ✗ NO

**Sub-Section Number :** 2

**Sub-Section Id :** 64065355385

**Question Shuffling Allowed :** Yes

**Question Number : 188 Question Id : 640653386858 Question Type : MCQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 1**

Question Label : Multiple Choice Question

The violin plot shown in Figure 2 demonstrates the age of passengers on the Titanic ship. Mark the approximate age range of most of the passengers.

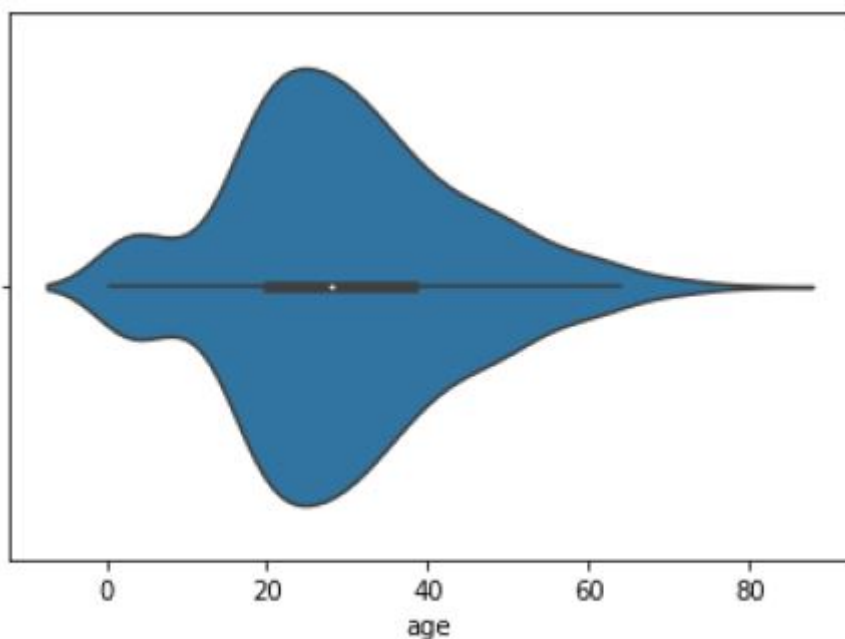


Figure 2: Violin plot for Titanic data-set

**Options :**

6406531286517. ✓ 20 - 40

6406531286518. ✗ 80 above

6406531286519. ✗ Less than 20

6406531286520. ✗ 40-60

**Sub-Section Number :** 3  
**Sub-Section Id :** 64065355386  
**Question Shuffling Allowed :** Yes

**Question Number : 189 Question Id : 640653386847 Question Type : MCQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2**

Question Label : Multiple Choice Question

Which of the following Sklearn objects can help you to reduce, expand or generate feature representations?

**Options :**

6406531286469. ✖ Estimator

6406531286470. ✖ Predictor

6406531286471. ✔ Transformer

6406531286472. ✖ None of these

**Question Number : 190 Question Id : 640653386850 Question Type : MCQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2**

Question Label : Multiple Choice Question

What will be the output of the following code?

```
from sklearn.datasets import load_wine
data= load_wine(return_X_y = False)
print(type(data))
```

**Options :**

6406531286481. ✔ `<class 'sklearn.utils.Bunch'>`

6406531286482. ✖ `<class 'sklearn.utils.Tuple'>`

6406531286483. ✖ `<class 'sklearn.utils.Ndarray'>`

6406531286484. ✖ It will result in an error

**Question Number : 191 Question Id : 640653386851 Question Type : MCQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2**

Question Label : Multiple Choice Question

Go through the code snippet given below:

```
import numpy as np
j = 1000
i=6
X = 2 * np.random.randn(j, i)
y = 6+ 3* np.random.randn(j)
```

What will be the shape of the feature matrix (X.shape) and the label vector (y.shape)?

**Options :**

6406531286485. ✖ (2000, 12) and (1000, 6)

6406531286486. ✖ (1, 1000) and (1,1000)

6406531286487. ✖ (599, 1) and (699, 1)

6406531286488. ✔ (1000, 6) and (1000,)

**Question Number : 192 Question Id : 640653386853 Question Type : MCQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2**

Question Label : Multiple Choice Question

Which of the following options is likely to be the correct output of the code snippet given below?

```
import numpy as np
from sklearn.preprocessing import MaxAbsScaler
x= np.array([3, 2, 5, -4, -21]).reshape(-1,1)
mas = MaxAbsScaler()
x_new = mas.fit_transform(x)
print(x_new)
```

**Options :**

6406531286493. ✓ `[[ 0.14285714] [ 0.0952381 ] [ 0.23809524] [-0.19047619] [-1. ]]`

6406531286494. ✗ `[[ 0.14285714] [ 0.0952381 ] [ -0.23809524] [-1.19047619] [-0. ]]`

6406531286495. ✗ `[[ 0.14285714] [ 0.0952381 ] [ 0.23809524] [-0.19047619] [1.2134245 ]]`

6406531286496. ✗ `[[ 1] [ 0.0952381 ] [ 0.23809524] [-0.19047619] [-1. ]]`

**Question Number : 193 Question Id : 640653386854 Question Type : MCQ Is Question**

**Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2**

Question Label : Multiple Choice Question

In the figure 1, what are the names of classes arranged in the increasing order of the median values?

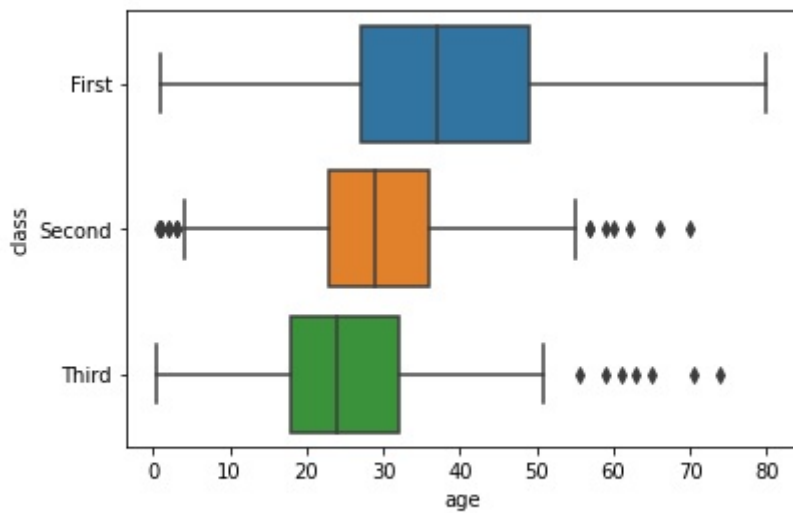


Figure 1: Box plot

**Options :**

6406531286497. ✖ First < Second < Third

6406531286498. ✔ Third < Second < First

6406531286499. ✖ Second < Third < First

6406531286500. ✖ Third < First < Second

**Question Number : 194 Question Id : 640653386856 Question Type : MCQ Is Question**

**Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2**

Question Label : Multiple Choice Question

Go through the code snippet given below and mark the correct output.

```
from sklearn.metrics import max_error
y_true = [2, 2, 2, 1]
y_pred = [3, 5, 7, 5]
max_error(y_true, y_pred)
```

**Options :**

6406531286505. ✖ 1

6406531286506. ✖ 3

6406531286507. ✖ 9

6406531286508. ✖ 25

6406531286509. ✖ 4

6406531286510. ✓ 5

**Question Number : 195 Question Id : 640653386860 Question Type : MCQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2**

Question Label : Multiple Choice Question

Which of the following is likely to be the correct output of the code given below?

```
from sklearn import linear_model
clf = linear_model.Ridge(alpha=1)
X= [[1,0], [2, 1], [3, 2]]
y= [10, 20, 30]
clf.fit(X, y)
linear_model.Ridge(alpha=1,max_iter=1000, tol=0.0001,fit_intercept=True)
clf.score(X,y)
```

**Options :**

6406531286525. ✖ 12

6406531286526. ✖ 29

6406531286527. ✖ No evaluation metrics are mentioned, hence it will produce an error

6406531286528. ✓ 0.96

**Sub-Section Number :** 4

**Sub-Section Id :** 64065355387

**Question Shuffling Allowed :** Yes

**Question Number : 196 Question Id : 640653386849 Question Type : MCQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 3**

Question Label : Multiple Choice Question

Which of the following is likely to be the correct output of the code given below?



```

from math import nan
import numpy as np
from sklearn.impute import SimpleImputer
data=[(2,3),(4,5),(3,1),(1,2),(5, nan)]
imputer = SimpleImputer(missing_values = np.nan, strategy = 'mean',
                        add_indicator=True)

imputer = imputer.fit(data)
data_imputed_with_indicator = imputer.transform(data)
print (data_imputed_with_indicator)

```

**Options :**

6406531286477. ✖ `[[2. 3. 0. ] [4. 5. 0. ] [3. 1. 0. ] [1. 2. 0. ] [5. 2.2 1. ]]`

6406531286478. ✔ `[[2. 3. 0. ] [4. 5. 0. ] [3. 1. 0. ] [1. 2. 0. ] [5. 2.75 1. ]]`

6406531286479. ✖ `[[2. 3. ] [4. 5. ] [3. 1. ] [1. 2. ] [5. 2.2 ]]`

6406531286480. ✖ There are some mistakes in the code, hence it will produce errors.

**Question Number : 197 Question Id : 640653386852 Question Type : MCQ Is Question**

**Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 3**

Question Label : Multiple Choice Question

Consider the following code snippet:

```

data=np.array([ 5,7,2,1])
from sklearn.preprocessing import PolynomialFeatures
poly= PolynomialFeatures(degree=2, interaction_only=True)
data = data.reshape(2,2)
poly.fit_transform(data)

```

Which of the following could be the correct output?

**Options :**



6406531286489. ✓ `array([[ 1., 5., 7., 35.], [ 1., 2., 1., 2.]])`

6406531286490. ✗ `array([[1., 5., 7.], [1., 2., 1.]])`

6406531286491. ✗ `array([[ 1., 5., 7., 25., 35., 49., 125., 175., 245., 343.], [ 1., 2., 1., 4., 2., 1., 8., 4., 2., 1.]])`

6406531286492. ✗ `array([[ 1., 5., 7., 25., 35., 49.], [ 1., 2., 1., 4., 2., 1.]])`

**Question Number : 198 Question Id : 640653386855 Question Type : MCQ Is Question**

**Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 3**

Question Label : Multiple Choice Question

Which of the following options will be the correct output of `print(clf.coef_)`?

```
from sklearn import linear_model
clf = linear_model.Lasso(alpha=0.1)
clf.fit([[3,1,0], [2, 2, 1], [1,3, 2]], [2,5,1])
linear_model.Lasso(alpha=0.1,max_iter=1000, tol=0.0001,
warm_start=False,fit_intercept=True)
```

**Options :**

6406531286501. ✓ `[ 0.35 -0. -0. ]`

6406531286502. ✗ `[-0.85,0]`

6406531286503. ✗ `[3,2,1,2]`

6406531286504. ✗ Given code block will return an error.

**Question Number : 199 Question Id : 640653386857 Question Type : MCQ Is Question**

**Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 3**

Question Label : Multiple Choice Question

Go through the code snippet given below and mark the correct output.

```
from sklearn.metrics import r2_score
y_true = [3, -1, 2, 8]
y_pred = [2, 0.0, 2, 8]
r2_score(y_true, y_pred)
```

Options :

6406531286511. ✖ 0.61

6406531286512. ✖ 0.83

6406531286513. ✔ 0.95

6406531286514. ✖ 1

6406531286515. ✖ -0.6

6406531286516. ✖ 5

Question Number : 200 Question Id : 640653386859 Question Type : MCQ Is Question

Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction

Time : 0

Correct Marks : 3

Question Label : Multiple Choice Question

Which of the following is likely to be the correct output of the code given below?

```
from sklearn.preprocessing import OneHotEncoder
enc = OneHotEncoder(handle_unknown='ignore')
X = [['Red', 1], ['White', 2], ['orange', 2]]
b=enc.fit_transform(X).toarray()
print(b)
```

Options :

6406531286521. ✖ `[[0. 0. 0. 1. 0.] [0. 1. 0. 0. 1.] [0. 0. 1. 0. 1.]]`

6406531286522. ✖ `[[1. 0. 0. 0. 0.] [0. 1. 0. 0. 0.] [0. 0. 1. 0. 0.]]`

6406531286523. ✖ `[[1. 0. 0. 1. 0.] [0. 1. 0. 0. 2.] [0. 0. 1. 0. 2.]]`

6406531286524. ✓ `[[1. 0. 0. 1. 0.] [0. 1. 0. 0. 1.] [0. 0. 1. 0. 1.]]`

**Question Number : 201 Question Id : 640653386862 Question Type : MCQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 3**

Question Label : Multiple Choice Question

Which of the following code blocks will correctly take the learning rate as 'optimal' ?

**Options :**

6406531286530. ✓ `from sklearn.linear_model import SGDRegressor  
linear_regressor = SGDRegressor(learning_rate='optimal', eta0=1e-3)`

6406531286531. ✗ `from sklearn.linear_model import SGDRegressor  
linear_regressor = (SGDRegressor_learning_rate='adaptive', eta0=1e-2)`

6406531286532. ✗ `from sklearn.model_selection import SGDRegressor  
SGD_regressor = LinearRegressor(learning_rate='optimal', eta0=1e-2)`

6406531286533. ✗ None of these

**Sub-Section Number :** 5

**Sub-Section Id :** 64065355388

**Question Shuffling Allowed :** Yes

**Question Number : 202 Question Id : 640653386848 Question Type : MSQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2**

Question Label : Multiple Select Question

Which of the following code blocks will correctly return an array of feature variables?

**Options :**

6406531286473. ✖ 

```
from sklearn.datasets import load_iris
X,y = load_iris()
print(X)
```

6406531286474. ✔ 

```
from sklearn.datasets import load_iris
data = load_iris()
print(data.data)
```

6406531286475. ✖ 

```
from sklearn.datasets import load_iris
(X, y) = load_iris()
print(X)
```

6406531286476. ✔ 

```
from sklearn.datasets import load_iris
X,y = load_iris(return_X_y = True)
print(X)
```

**Sub-Section Number :** 6

**Sub-Section Id :** 64065355389

**Question Shuffling Allowed :** Yes

**Question Number :** 203 **Question Id :** 640653386846 **Question Type :** MSQ **Is Question**

**Mandatory :** No **Calculator :** None **Response Time :** N.A **Think Time :** N.A **Minimum Instruction Time :** 0

**Correct Marks :** 3

**Question Label :** Multiple Select Question

Scikit-Learn's API is remarkably well designed. The main design principles are:-

**Options :**

6406531286465. ✔ Nonproliferation of classes

6406531286466. ✔ Sensible defaults

6406531286467. ✔ Consistency

6406531286468. ✖ Proportion

**Question Number : 204 Question Id : 640653386863 Question Type : MSQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 3**

Question Label : Multiple Select Question

Go through the code block given below:

```
from sklearn.preprocessing import PolynomialFeatures
from sklearn.pipeline import Pipeline
from sklearn.preprocessing import StandardScaler
from sklearn.linear_model import RidgeCV
from sklearn.datasets import load_diabetes
diabetes = load_diabetes(as_frame=True)
train_X= diabetes.data
train_y= diabetes.target

lf= np.logspace(-5, 0, num=6)

reg= Pipeline([("poly", PolynomialFeatures(degree=2)),
               ("feature_scaling", StandardScaler())
              ])

ridge= RidgeCV(alphas=lf,scoring= None,fit_intercept = False)
results = ridge.fit(train_X, train_y)
print(results.intercept_)
```

Which of the following can't be the correct output of the given code block?

**Options :**

6406531286534. ✖ 0.0

6406531286535. ✔ 0.01

6406531286536. ✔ 0.1

6406531286537. ✔ 1

**Sub-Section Number :** 7

**Sub-Section Id :** 64065355390

**Question Shuffling Allowed :** Yes

**Question Number : 205 Question Id : 640653386861 Question Type : SA Calculator : None**

**Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 3**

Question Label : Short Answer Question

Enter the correct output of the following code block.

```
import numpy as np
from sklearn.model_selection import ShuffleSplit
X = np.array([[2, 2], [5, 4], [1, 6], [2, 8], [3, 4], [2, 6]])
y = np.array([3, 2, 1, 2, 3, 2])
rs = ShuffleSplit(n_splits=5, test_size=.25, random_state=0)
k=1
for i,j in rs.split(X):
    k+=1
print(k)
```

**Response Type : Numeric**

**Evaluation Required For SA : Yes**

**Show Word Count : Yes**

**Answers Type : Equal**

**Text Areas : PlainText**

**Possible Answers :**

6

**Sub-Section Number : 8**

**Sub-Section Id : 64065355391**

**Question Shuffling Allowed : No**

**Question Id : 640653386864 Question Type : COMPREHENSION Sub Question Shuffling Allowed : No Group Comprehension Questions : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Question Numbers : (206 to 207)**

Question Label : Comprehension

Go through the code snippet given below and answer the given subquestions.



```
import numpy as np
from sklearn.linear_model import SGDRegressor
from sklearn.pipeline import make_pipeline
n_samples, n_features = 18, 4
rng = np.random.RandomState(0)
y = rng.randn(n_samples)
X = rng.randn(n_samples, n_features)
reg = SGDRegressor(max_iter=1000,tol=1e-3,eta0= 0.04, power_t=5,
                    n_iter_no_change=3, validation_fraction=0.3 ,random_state=42)
reg.fit(X, y)
print(reg.coef_)
```

### Sub questions

**Question Number : 206 Question Id : 640653386865 Question Type : MCQ Is Question**

**Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 3**

Question Label : Multiple Choice Question

Which of the following options will be the output of the given code?

**Options :**

6406531286538. ✓ [-0.02634908 0.01189399 0.0917284 0.08966849]

6406531286539. ✗ array([-0.22622766, -0.00582008, -0.1820344 , 0.03518086, -0.14490955])

6406531286540. ✗ array([-0.22622766, -0.00582008, -0.1820344 ])

6406531286541. ✗ Given code will return an error because the data set is not given

**Question Number : 207 Question Id : 640653386866 Question Type : MCQ Is Question**

**Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 3**

Question Label : Multiple Choice Question

Which of the following could be the possible output of print(reg.score())?

**Options :**

6406531286542. ✗ -0.528

6406531286543. ✗ 1



6406531286544. ✖ 0.528

6406531286545. ✔ Given code will return an error