

# WS Session 1-2

\* Indicates required question

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1. Email \*

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2. 1. When an AI model receives input, what does it output? \*

1 point

*Mark only one oval.*

- A. Predictions
- B. Ground truth
- C. Features
- D. Trained models

3. 2. Which type of problem is predicting the sales of a supermarket? \*

1 point

*Mark only one oval.*

- Regression
- Classification

4. 3. When a model performs well on training data and not so well on unseen data, which phenomenon is it related to? \* 1 point

*Mark only one oval.*

- A. Underfitting
- B. Overfitting
- C. Undertraining
- D. Overtraining

5. 4. Carson had a lung X-ray checkup, and his AI model, which detects lung cancer from X-ray images, predicts that his X-ray image does not indicate lung cancer. However, later based on the same X-ray image the doctors diagnosed that he actually had lung cancer. Which type of prediction has the model made? \* 1 point

*Mark only one oval.*

- A. True positive
- B. False positive
- C. True negative
- D. False negative

6. 5. What is the output (printed out into the notebook) of this code? \*

1 point



```
s = 0
for i in range(1, 5):
    s += i
print(s)
```

*Mark only one oval.*

- A. 1
- B. 5
- C. 10
- D. 15

7. 6. What is the output (printed out into the notebook) of this code? \*

1 point



```
import numpy as np
print(np.zeros((4, 4, 3)).shape)
```

*Mark only one oval.*

- A. (0)
- B. (4, 4, 3)
- C. (48)
- D. None

8. 7. Which type of plot does the following code output? \*

1 point



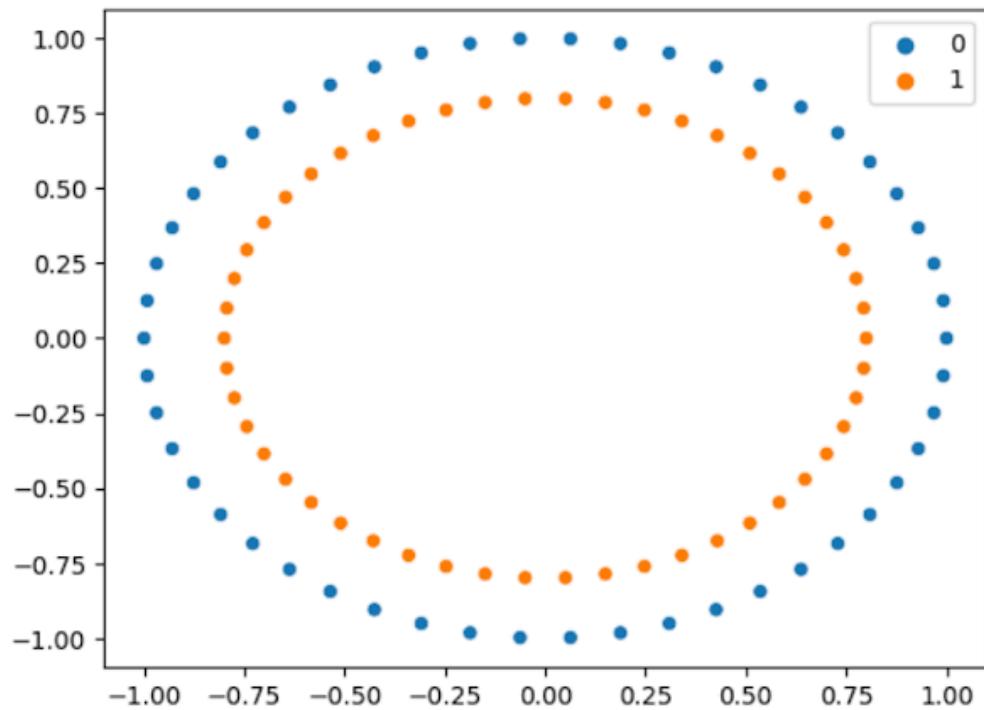
```
import seaborn as sns
from sklearn.datasets import make_circles
X, y = make_circles(random_state=42)
sns.scatterplot(x=X[:, 0], y=X[:, 1], hue=y)
```

Mark only one oval.

- A. Line chart
- B. Heatmap
- C. Histogram
- D. Scatterplot

9. 8. Refer to the image below. Blue points are data points from one class while orange points are data points from another class. Is this dataset linearly separable? \* 1 point

[6]: <Axes: >



+ Code

+ Markdown

Mark only one oval.

Yes

No

This is a regression problem, so we don't talk about linear separability

10. Refer to the code below for questions 9 and 10. \*

1 point

9. What does the pd.read\_csv function do?

```
► import pandas as pd
  from sklearn.model_selection import train_test_split
  df = pd.read_csv("./kaggle/input/salary-data-for-predict-salary-1/salary_cleaned.csv")
  y = df[['Salary']]
  X = df.drop(columns=['Salary']) # drop the salary from the inputs as the salary is the label itself
  X_train, X_test, y_train, y_test = train_test_split(X, y, test_size=0.2, random_state=42)
```

Mark only one oval.

- A. Reads data from a CSV file and returns a numpy array
- B. Reads data from a CSV file and returns a pd.DataFrame
- C. Reads data from a CSV file and returns the CSV file
- D. Writes data into a PDF file

11. 10. What is the percentage of the dataset that is in the training set (X\_train, \* 1 point  
y\_train)?

Mark only one oval.

- A. 20%
- B. 42%
- C. 80%
- D. 100%

12. 11. Given  $y = [1, 2, 3]$  and  $y_{pred} = [4, 5, 6]$ . Find the mean squared error \* 1 point  
(MSE) between  $y$  and  $y_{pred}$ .

Mark only one oval.

- A. -9.0
- B. -3.0
- C. 3.0
- D. 9.0

13. 12. What compares the model predictions and the ground truth to guide the model's training process? \* 1 point

*Mark only one oval.*

- A. Loss functions
- B. Trained models
- C. Vectors
- D. Exception handling

14. 13. Which one is an advantage of a simple linear model over a sophisticated AI model? \* 1 point

*Mark only one oval.*

- A. It achieves higher accuracy on all classification problems
- B. It is easier to interpret the model
- C. It is less likely to use tensor operations
- D. It facilitates the data collection process

15. 14. Anson is using a fully labeled dataset to train a model predicting house prices based on area, number of rooms, and other factors. Which machine learning paradigm should he use? \* 1 point

*Mark only one oval.*

- A. Supervised learning
- B. Unsupervised learning
- C. Reinforcement learning
- D. Semi-supervised learning

16. 15. True or false; all potential solutions to all problems involve AI and machine learning.

\* 1 point

*Mark only one oval.*

True

False

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