

WS Session 1-2

* Indicates required question

1. Email *

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)
```

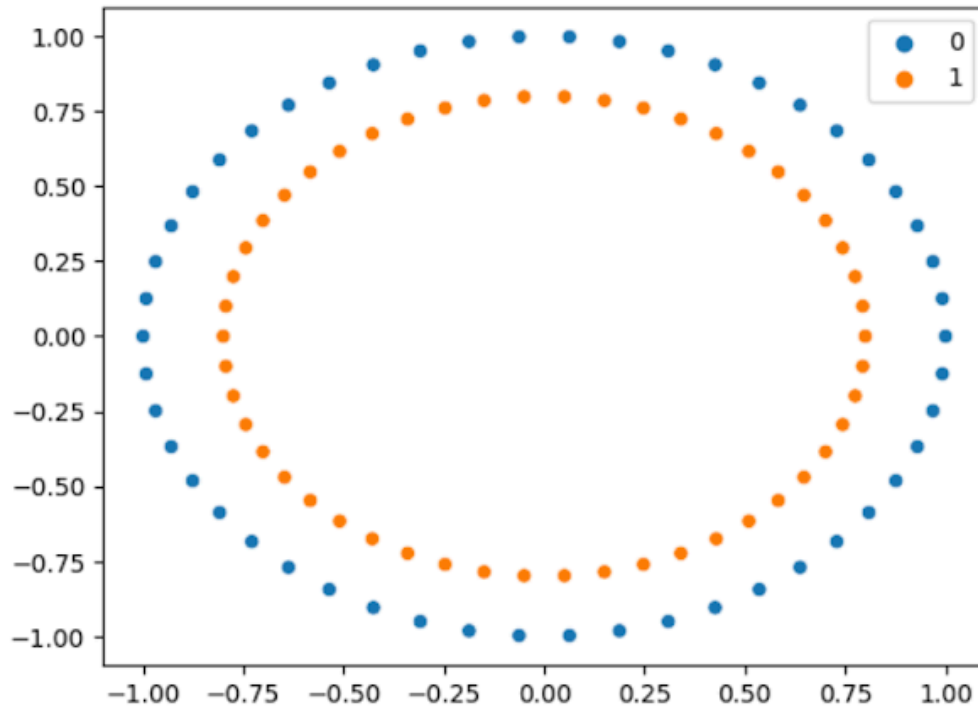
Mark only one oval.

- ☐ 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`, `y_train`)? *

1 point

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 (MSE) between `y` and `y_pred`. *

1 point

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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