

cvvjo5rv0

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0.1 Practical 3

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[2]: import numpy as np
from sklearn.linear_model import Perceptron

def ascii_representation(digit):
    ascii_bin = np.array([list(format(ord(str(digit)), '08b'))], dtype=int).
    ↪flatten()
    return ascii_bin

X = np.array([ascii_representation(i) for i in range(10)])
y = np.array([0 if i % 2 == 0 else 1 for i in range(10)]) # 0 for even, 1 for
    ↪odd

perceptron = Perceptron()
perceptron.fit(X, y)

def predict_even_odd(digit):
    binary_input = ascii_representation(digit)
    prediction = perceptron.predict([binary_input])
    return "Even" if prediction == 0 else "Odd"

for i in range(10):
    print(f"Number {i} is {predict_even_odd(i)}")
```

```
Number 0 is Even
Number 1 is Odd
Number 2 is Even
Number 3 is Odd
Number 4 is Even
Number 5 is Odd
Number 6 is Even
Number 7 is Odd
Number 8 is Even
Number 9 is Odd
```