Sri Lanka Institute of Information Technology

Kandy Uni

IT2011 - Artificial Intelligence and Machine Learning

Lab Submission

Worksheet No: 01

<IT 24610823>

<Shaahidh M.W.M>

<Batch 2>

<29-07-2025>

Exercise

Part 1: Traditional Programming vs AI/ML

Task 1A – Rule-Based Programming

Deliverables:

Check a number is Even or Odd

```
[14] num = int(input("Enter a number: "))

     if num % 2 == 0:
       print(f"Number {num} is Even")
     else:
       print(f"Number {num} is Odd")
```

```
Enter a number: 6
Number 6 is Even
```

Explain the limitations of this approach.

Divide the input by 2 and if the reminder is 0 it's even number , and if it's 1 that is the odd number

Task 1B – ML-Based Classification

Deliverables:

Code for simulate ML-based even/odd classification

```python
import pandas as pd
from sklearn.tree import DecisionTreeClassifier

data = {"value": [1, 2, 3, 4, 5, 6, 7, 8], "lable":[1, 0, 1, 0, 1, 0, 1, 0]}
df = pd.DataFrame(data)

x = df[["value"]]
y = df["lable"]

model = DecisionTreeClassifier()
model.fit(x, y)

test_value = pd.DataFrame({"value": [10, 11, 13]})
print("Predicted lables (1 = Odd, 0 = Even): ")
print(model.predict(test_value))
```

```
Predicted lables (1 = Odd, 0 = Even):
[0 0 0]
```

Explain the difference from rule-based logic.

In ML it's learn by data and pattern automatically , when we changed the data it will retrain it's self.

Part 2: Generative AI and Prompt Engineering

Deliverables:

1. **In classrooms bright with screens aglow,**
   AI helps young minds learn and grow.
   Lessons adapt to every pace,
   With robots aiding every case.
   The future learns with every show.

2. **A high-tech classroom in 2035, with transparent holographic screens floating mid-air, robotic assistants moving between desks, students wearing smart glasses, AI avatars on digital boards, and walls displaying real-time data in colorful lights.**

Reflect on how prompt quality affects output.

The better the prompt, the better the output. Clear, specific, and audience-aware prompts empower AI to produce creative, targeted, and high-quality results. Poor or vague prompts often lead to generic or off-topic responses.

Deliverables:

Compare the two outputs.

Aspect	Poem	AI-Generated Image
Format	Rhymed text (poetry)	Visual (based on textual description)
Purpose	To express ideas creatively	To visualize a future concept
Creativity Style	Literary & artistic	Visual & descriptive
Prompt Specificity	Very specific (5-line, AI in schools)	Open-ended but richly detailed
Output Use	Can be used in writing, storytelling, or education	Can support visual presentations or concept art