APPENDICES

APPENDIX A-SOURCE CODE

```
# Import necessary libraries
from sklearn.tree import DecisionTreeClassifier
import numpy as np

# Expanded dataset  (features: [Interest  in Science, Math, Programming,  Design, Biology, Creativity])
# Labels: Learning Path suggestions
data = np.array([
    [1, 1, 1, 0, 0, 0],  # Interested in Science, Math, and Programming
    [1, 0, 0, 1, 0, 1],  # Interested in Science, Design, and Creativity
    [0, 1, 1, 0, 0, 0],  # Interested in Math and Programming
    [0, 0, 0, 1, 0, 1],  # Interested in Design and Creativity
    [1, 1, 0, 0, 1, 0],  # Interested in Science, Math, and Biology
    [1, 0, 0, 0, 1, 0],  # Interested in Science and Biology
    [0, 0, 0, 0, 0, 1],  # Interested in Creativity
    [1, 1, 1, 1, 1, 1],  # Interested in all fields
    [0, 0, 1, 1, 0, 0],  # Interested in Programming and Design
    [0, 0, 0, 0, 1, 0],  # Interested in Biology
])

# Corresponding learning paths
labels = [
    "Engineering and Technology Path",
    "Arts and Creative Design Path",
    "Computer Science Path",
    "Graphic Design Path",
```

```
    "Medical Research Path",
    "Health Science Path",
    "Fine Arts Path",
    "Comprehensive Multi-Disciplinary Path",
    "Web Development and UI/UX Path",
    "Pure Medical Sciences Path",
]

# Train the Decision Tree Classifier
model = DecisionTreeClassifier()
model.fit(data, labels)

# User input
print("Enter your interests (1 for Yes, 0 for No):")
science = int(input("Do you enjoy Science? (1/0): "))
math = int(input("Do you enjoy Mathematics? (1/0): "))
programming = int(input("Do you enjoy Programming? (1/0): "))
design = int(input("Do you enjoy Design? (1/0): "))
biology = int(input("Do you enjoy Biology? (1/0): "))
creativity = int(input("Do you enjoy Creativity and Arts? (1/0): "))

# Create user input array
user_input = np.array([[science, math, programming, design, biology, creativity]])

# Predict learning path
recommendation = model.predict(user_input)

print("\nRecommended Learning Path for You: ", recommendation[0])
```