

Practical Work – Introduction to Artificial Intelligence

PW n°1: Weak AI & Introduction to Python

Exercise 1: Human–Machine Interaction

Given the following Python code, please write it, execute it, and answer the following questions.

```
name = input("Enter your name: ")  
age = int(input("Enter your age: "))  
  
print("Hello", name)  
print("You are", age, "years old")
```

Questions :

1. What is the purpose of the `input()` function?
2. What does the variable `name` contain?
3. Why is `int()` used for the `age`?
4. What happens if `int()` is removed?
5. What is the role of `print()`?
6. What is the difference between `"age"` and `age`?
7. Is this program interactive? Why?

Exercise 2: Simple Decision Making (Conditions)

Given the following Python code, please write it, execute it, and answer the following questions.

```
study_hours = int(input("How many hours do you study per day? "))  
  
if study_hours < 2:  
    print("You should study more.")  
elif study_hours <= 5:  
    print("Good job! You are studying regularly.")  
else:  
    print("Excellent! Just be careful not to overwork.")
```

Questions :

1. What is the role of the `if` statement?
2. What does the condition `study_hours < 2` mean?
3. Why do we use `elif`?
4. When is the `else` block executed?
5. What message is displayed if the student enters 3?
6. How many messages can be displayed at the same time?
7. Does this program make a decision? Explain.

Exercise 3: Mini Intelligent Student Assistant (Weak AI)

Given the following Python code, please write it, execute it, and answer the following questions

```
field = input("Enter your field of study: ")
study_hours = int(input("Enter your study hours per day: "))

if study_hours < 2:
    print("Advice: You need to improve your study habits.")
else:
    if field == "Computer Science":
        print("Good profile for Computer Science.")
    else:
        print("Keep working in your field.")
```

Questions

1. What does the variable `field` contain?
2. What is tested by `field == "Computer Science"`?
3. Why do we use `==` instead of `=`?
4. Why is there an `if` inside another `if`?
5. What is the role of indentation in Python?
6. Where are the rules of the system defined?
7. Why is this considered Weak Artificial Intelligence?

Exercise 4: Simple Improvement

Given the following Python code, please write it, execute it, and answer the following questions

```
field = input("Enter your field of study: ")
study_hours = int(input("Enter your study hours per day: "))

if study_hours < 2:
    print("You should increase your study time.")
elif field == "Mathematics":
    print("Mathematics requires regular practice.")
elif field == "Computer Science":
    print("Good profile for Computer Science.")
else:
    print("Keep working and stay motivated.")
```

Questions:

1. Is this program really intelligent?
2. Can it learn from experience?
3. What is the main limitation of this system?
4. What is the difference between this program and Machine Learning?