PIAIC Sunday Class 08 (15th Sep 2024)

Introduction to ChatGPT 01 (Strawberry Project)

We reviewed the five levels of AI, focusing on chatbots, agents, and other types. The most important takeaway is Reinforcement Learning (RL). RL is a type of learning where an agent interacts with an environment and learns by receiving rewards based on its actions. It's introduced in the Strawberry project using the Chain of Thought model.

Example: In RL, an agent (e.g., a robot) is given an input (e.g., a command), performs an action (e.g., moving), and receives a reward (e.g., reaching a goal).

Today's Topic: String Data Type

We covered string operations:

- Shallow Copy vs. Deep Copy:

- Shallow copy copies the reference, while deep copy copies the object.

- Common String Escape Characters:

- `\` for escape, `\n` for newline, `\t` for tab. These help in formatting string output.

Displaying Data:

- display(data): Shows data in its raw form.

- print(data): Displays data in the user-friendly form.

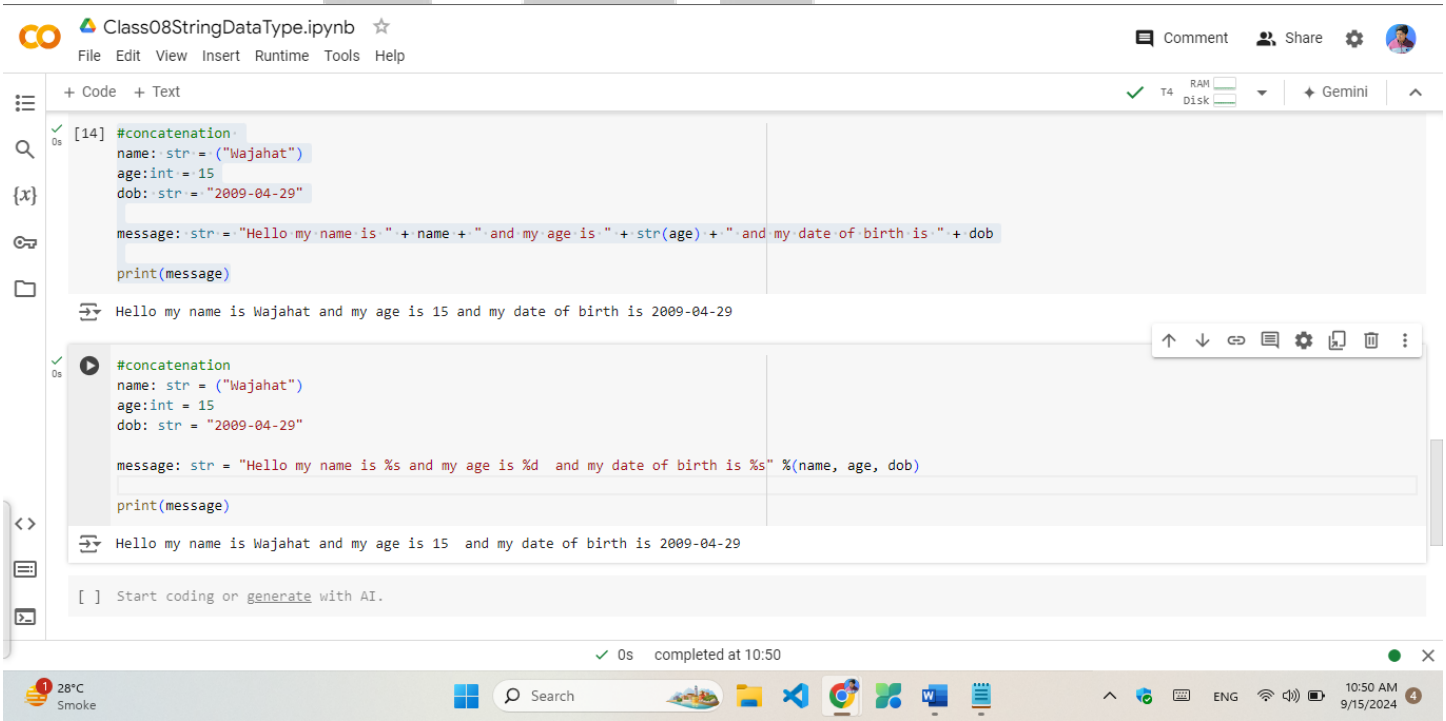
Type Casting:

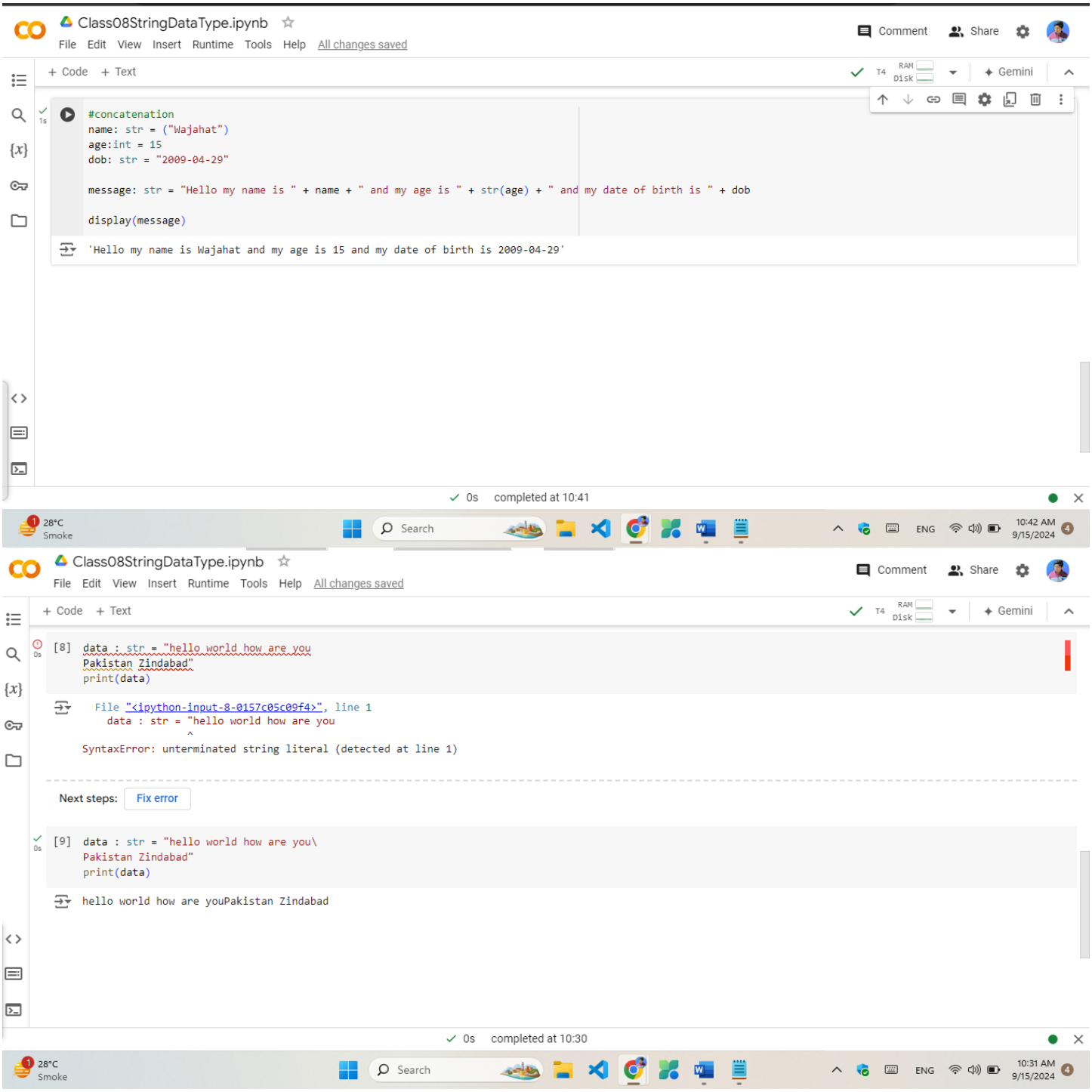
Type casting is converting data from one type to another.

- Example: `str(10)` converts an integer to a string.

- Placeholders: `%s` for strings, `%d` for integers, useful in formatted strings.

Codes We Performed:




Class08StringDataType.ipynb
File Edit View Insert Runtime Tools Help All changes saved
Comment
Share
Gemini
#concatenation
name: str = ("Wajahat")
age:int = 15
dob: str = "2009-04-29"
message: str = "Hello my name is " + name + " and my age is " + str(age) + " and my date of birth is " + dob
display(message)
'Hello my name is Wajahat and my age is 15 and my date of birth is 2009-04-29'
0s completed at 10:41
28°C Smoke
Search
ENG
10:42 AM 9/15/2024

Class08StringDataType.ipynb
File Edit View Insert Runtime Tools Help All changes saved
Comment
Share
Gemini
[8] data : str = "hello world how are you
Pakistan Zindabad"
print(data)
File "<ipython-input-8-0157c05c09f4>", line 1
data : str = "hello world how are you
^
SyntaxError: unterminated string literal (detected at line 1)
Next steps: Fix error
[9] data : str = "hello world how are you\
Pakistan Zindabad"
print(data)
hello world how are youPakistan Zindabad
0s completed at 10:30
28°C Smoke
Search
ENG
10:31 AM 9/15/2024

Class08StringDataType.ipynb

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+ Code + Text

T4 RAM Disk Gemini

```
[3] data : str = 'hello world, how are you'
    print(data)
```

```
hello world, how are you
```

```
[4] data : str = "hello world", "how are you"
    print(data)
```

```
('hello world', ' how are you')
```

```
[5] data : str = "hello world, how are you"
    print(data)
```

```
hello world, how are you
```

```
[6] data : str = 'hello world, "how are you'
    print(data)
```

```
hello world, "how are you
```

```
[7] data : str = "hello world\", how are you"
    print(data)
```

0s completed at 10:30

28°C Smoke Search ENG 10:30 AM 9/15/2024

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colab.research.google.com/drive/17BVWux_wp63q4FjyHJcaSVD1VFLjBn4j#scrollTo=pN9xZq43EjR3

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T4 RAM Disk Gemini

```
[ ] print ("hello")
```

```
hello
```

```
name : str = "Wajahat"
print (name)
print (type(name))
print (id(name))

name1 : str = "Wajahat"
print (id(name))
```

```
Wajahat
<class 'str'>
132103207319280
132103207319280
```

0s completed at 10:12

Operators in Python:

1. Arithmetic Operators:

- Addition: `a + b`
- Subtraction: `a - b`
- Multiplication: `a * b`
- Division: `a / b` (returns a float)
- Floor Division: `a // b` (returns integer)
- Modulus: `a % b` (remainder)
- Exponent: `a  b` (power)

2. Comparison Operators (Boolean Results: True/False):

- Equal to: `a == b`
- Not equal to: `a != b`
- Greater than: `a > b`
- Less than: `a < b`
- Greater than or equal to: `a >= b`
- Less than or equal to: `a <= b`

3. Assignment Operators:

- Assign value: `a = 10`

- Add and assign: `a += 5`
- Subtract and assign: `a -= 5`
- Multiply and assign: `a *= 5`
- Divide and assign: `a /= 5`

4. Logical Operators:

- AND: `x and y`
- OR: `x or y`
- NOT: `not x`

5. Membership Operators:

- in: `x in list`
- not in: `x not in list`

6. Identity Operators:

- is: `x is y` (same object)
- is not: `x is not y`