**Python practice problems**

**Topics: variable, data type, data type conversion, input & output in Python.**

**1. What happens if you assign a string value to a variable that previously held an**

**integer?**

Ans: It shows a error , as different data types can not concat together .

**2. How can you check the data type of a variable in Python?**

Ans: a = 10

print(type(a))

**3. What’s the difference between int("15") and str(15)?**

**Ans:**  One is integer type and another one is string type data.

**4. What will be the output of this code?**

a = int("15")

b = str(15)

print(a)

print(b)

print(type(a))

print(type(b))

15

15

<class 'int'>

<class 'str'>

**5. How can you take multiple inputs from the user in a single line?**

**Ans:**  By using the input function with the split() function , also we can do it by using f”{}, {}” string.

**6. What happens if you try to convert a string like "hello" to an integer using int()?**

**Ans:**  Error , argument error.

**7. Can a variable change its data type during program execution in Python?**

**Ans:**  It depends on how you write the program lines, as it executes line by line, if you input x = 10 then print, again x = “hello” then print , it will output int first and then string dtype later, but in python they do not change automatically. So it depends on the dynamic typing.

**8. What’s the difference between the print() and input() functions?**

**Ans:**  One is input function and another is output function.

**9. Why does input() always return a string, and how do you handle it?**

**Ans:**  We can handle it by typecasting. Like defining the datatype later , a = input()

A = int(a).

**10. How would you convert the string "15.5" to an integer, float, boolean & complex?**

Ans: A = "15.5"

Int(A), float(A), bool(A).. etc

**Bonus Question**

**1. How does a variable work in memory? In Python, does it hold a reference or a value?**

**Ans:** In programming languages, they store it to a reference index.

**2. What is the difference between mutable and immutable data types? Explain with real-life**

**examples.**

**Ans:** Mutable : can be changed, like a printed document.

Immutable: can not be changes , like a typed document.

**3. What is the difference between type conversion and type casting in Python?**

**Ans:**  Type casting is done by the programmers, which is a explicit method, and type conversion is done by python do match with another data , which is implicit method

**4. What data type is always returned from input() in Python, and how can it be used as a**

**numeric type?**

**Ans:**  It generally output a string data type but we can change the data type with our needs.

**5. What happens when multiple values are given inside the print() function?**

**Ans:** print function can print multiple values , if the code is written properly.