1.2-Datatypes

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1 DataTypes

1. Definition:

- Data types are a classification of data which tell the compiler or interpreter how the programmer intends to use the data.

- They determine the type of operations that can be performed on the data, the values that the data can take, and the amount of memory needed to store the data.

2. Importance of Data Types in Programming   Explanation: - Data types ensure that data is stored in an efficient way. - They help in performing correct operations on data. - Proper use of data types can prevent errors and bugs in the program.

```python
[4]:  # Interger  data type
      age = 35
      print(type(age))

      # floating point datatype
      height = 23.4
      print(type(height))

      # string datatype
      name = "Uditya"
      print(type(name))

      # bool datatype
      is_null = False
      print(type(is_null))
      a = 10
      b = 23
      print(a==b)
```

```
<class 'int'>
<class 'float'>
<class 'str'>
<class 'bool'>
False
```

```
[6]:  # common errors
      result = "Hello"+5
```

```
---------------------------------------------------------------------------
TypeError                                 Traceback (most recent call last)
Cell In[6], line 2
      1 # common errors
----> 2 result =          +5

TypeError: can only concatenate str (not "int") to str
```

```
[9]:  # correct the error
      result = "Hello "+ str(5)
```

```
[10]: result
```

```
[10]: 'Hello 5'
```