1.What is the purpose of pass statement in python?

The pass statement in Python is used as a placeholder. It is a null statement that does nothing when executed, which allows you to create minimal structures without adding actual code. Here are a few common scenarios where pass is used:

Function Definitions:

When you want to define a function that you haven't implemented yet.

```
def my_function():
    pass
```

Class Definitions:

When you are defining a class and want to implement it later.

```
class MyClass:
    pass
```

Loops and Conditionals:

When you need to write loops or conditionals that you plan to fill in later.

```
for i in range(10):
    pass
if condition:
    pass
```

Abstract Base Classes:

When defining abstract methods in abstract base classes, which are meant to be overridden in derived classes.

```
from abc import ABC, abstractmethod
class MyAbstractClass(ABC):
    @abstractmethod
    def my_abstract_method(self):
        pass
```

Using pass allows your code to be syntactically correct and run without errors, even if the actual implementation is not yet complete.

2.what are python built in datatypes?

Python has a variety of built-in data types that can be broadly categorized into the following groups:

1. Numeric Types

int: Integer values.

x = 10

float: Floating-point numbers.

y = 10.5

complex: Complex numbers with a real and imaginary part.

z = 1 + 2j

2. Sequence Types

str: String of characters.

s = "hello"

list: Ordered collection of items (mutable).

lst = [1, 2, 3]

tuple: Ordered collection of items (immutable).

tpl = (1, 2, 3)

3. Set Types

set: Unordered collection of unique items.

st = {1, 2, 3}

frozenset: Immutable version of a set.

fst = frozenset([1, 2, 3])

4. Mapping Types

dict: Collection of key-value pairs.

d = {"key": "value"}

5. Boolean Type

bool: Represents True or False.

b = True

6. Binary Types

bytes: Immutable sequence of bytes.

by = b'hello'

bytearray: Mutable sequence of bytes.

ba = bytearray(b'hello')

memoryview: Memory view object that exposes a sequence of bytes.

mv = memoryview(b'hello')

7. None Type

NoneType: Represents the absence of a value or a null value.

n = None