12.Constructors

1. Write a class with a default constructor, one argument constructor and two argument constructors. Instantiate the class to call all the constructors of that class from a main class

2. Call the constructors(both default and argument constructors) of super class from a child class

3. Apply private, public, protected and default access modifiers to the constructor

4. Write a program which illustrates the concept of attributes of a constructor.

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```python
# 1st program...
class MyClass:
    def __init__(self, name="Santhosh Kumar", age=30):
        self.name = name
        self.age = age

    def __str__(self):
        return f"My name is {self.name} and I am {self.age} years old."
def main():
    obj1 = MyClass()
    print(obj1)
    obj2 = MyClass("Jane Doe")
    print(obj2)

    # Create an instance of the class with two arguments
    obj3 = MyClass("John Smith", 40)
    print(obj3)


if __name__ == "__main__":
    main()
```

```
My name is Santhosh Kumar and I am 30 years old.
My name is Jane Doe and I am 30 years old.
My name is John Smith and I am 40 years old.
```

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```python
# program...
class SuperClass:
    def __init__(self, name):
        self.name = name

class ChildClass(SuperClass):
    def __init__(self, name, age):
        super().__init__(name)
        self.age = age

c = ChildClass("Muthu", 20)

print(c.name)
print(c.age)
```

```
Muthu
20
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```
# 3rd program...
class Person:

    # Private constructor
    def __init__(self):
        self.__name = None
        self.__age = None

    # Public constructor
    def __init__(self, name, age):
        self.name = name
        self.age = age

    # Protected constructor
    def _init(self, name, age):
        self._name = name
        self._age = age

    # Default constructor (no access mo
    def init(self, name, age):
        self.name = name
        self.age = age
```

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```python
# 4th program...
class Person:
    def __init__(self, name, age):
        self.name = name
        self.age = age

    def print_details(self):
        print("Name:", self.name)
        print("Age:", self.age)


person1 = Person("Santhosh kumar", 30)
person2 = Person("Sharan", 25)

person1.print_details()
person2.print_details()
```

```
Name: Santhosh kumar
Age: 30
Name: Sharan
Age: 25
```