

```
from abc import ABC, abstractmethod
```

```
# Abstract Class need to implemented
```

```
class Parent(ABC):
```

```
    @abstractmethod
```

```
    def d1(self):
```

```
        pass
```

```
p = Parent()
```

```
p.d1()
```

```
TypeError: Can't instantiate abstract class Parent with abstract method d1
```

```
from abc import ABC, abstractmethod
```

```
# Abstract Class need to implemented in Child Class
```

```
class Parent(ABC):
```

```
    @abstractmethod
```

```
    def d1(self):
```

```
        pass
```

```
class Child(Parent):
```

```
    def d1(self):
```

```
        print("d1 method implemented")
```

```
c = Child()
```

```
c.d1()
```

```
d1 method implemented
```

```
from abc import ABC, abstractmethod

# All methods in Abstract Class
class Parent(ABC): # Is subclassed by: Child

    @abstractmethod
    def d1(self): # Is overridden in: Child
        pass

    @classmethod
    @abstractmethod
    def d2(cls): # Is overridden in: Child
        pass

    @staticmethod
    @abstractmethod
    def d3(): # Is overridden in: Child
        pass

class Child(Parent):

    def d1(self): # Overrides method in Parent
        print("d1 method implemented")

    def d2(self): # Overrides method in Parent
        print("d2 method implemented")

    def d3(self): # Overrides method in Parent
        print("d3 method implemented")

c = Child()
c.d1()
c.d2()
c.d3()
```

Constructors in Abstract Class

```
from abc import ABC, abstractmethod
```

```
class Parent(ABC):
```

```
    @abstractmethod
```

```
    def __init__(self):
```

```
        pass
```

```
Parent()
```

TypeError: Can't instantiate abstract class Parent with abstract method __init__

Constructors in Abstract Class implemented

```
from abc import ABC, abstractmethod
```

```
class Parent(ABC): # Is subclassed by: Child
```

```
    @abstractmethod
```

```
    def __init__(self):
```

```
        pass
```

```
class Child(Parent): # Is overridden in: Child
```

```
    def __init__(self):
```

```
        print("Special Method")
```

```
Child()
```

Special Method

```
from abc import ABC, abstractmethod
```

```
# When Abstract Class contains all abstract methods known as Interface
```

```
class Parent(ABC): # Is subclassed by: Child
```

```
    @abstractmethod
```

```
    def d1(self): # Is overridden in: Child
        pass
```

```
    @abstractmethod
```

```
    def d2(self): # Is overridden in: Child
        pass
```

```
class Child(Parent):
```

```
    def d1(self): # Overrides method in Parent
        print("d1 method implemented")
```

```
    def d2(self): # Overrides method in Parent
        print("d2 method implemented")
```

```
c = Child()
```

```
c.d1()
```

```
c.d2()
```

```
d1 method implemented
```

```
d2 method implemented
```