

# Instance Attributes

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An instance is created as an object of a class. Every instance has class attributes with them along with some extra attributes called instance attributes. These attributes are different from class attributes. If a class has two instances then they share the same class attributes may have different values, but every instance has different instance attributes. Every object has a different copy of the instance attributes.

We can use the following two types of function to list out instance objects:

1. **vars()**- This function displays the attribute of an instance in the form of a dictionary.
2. **dir()**- this function displays more attributes than the vars function, as it is not limited to the instance. It displays the class attributes as well. It also displays the attributes of its ancestor's classes.

## Example:

```
class student:
    def __init__(self):
        self.name = 'xyz'
        self.rollno = 4000

    def show(self):
        print(self.name)
        print(self.rollno)

s1 = student()
print("Dictionary form :", vars(s1))
print(dir(s1))
```

## Output:

```
Dictionary form : {'name': 'xyz', 'rollno': 4000}
['__class__', '__delattr__', '__dict__', '__dir__', '__doc__', '__eq__', '__format__', '__ge__',
'__getattr__', '__gt__', '__hash__', '__init__', '__init_subclass__', '__le__', '__lt__',
'__module__', '__ne__', '__new__', '__reduce__', '__reduce_ex__', '__repr__', '__setattr__',
'__sizeof__', '__str__', '__subclasshook__', '__weakref__', 'name', 'rollno', 'show']
```

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