

class code, 3/8/2020

class character:

```
def __init__(self, hp, level):
    self.hp = hp
    self.level = level

def universal_intro(self):
    print(f"I am {self.__class__.__name__}, level {self.level}.")

def intro(self):
    print(f"I am character, level {self.level}.")
```

class hero(character):

```
def __init__(self, hp, level, item):
    super().__init__(hp, level)
    self.item = item

def intro(self):
    print(f"I am hero, I have {self.item}.")
```

class monster(character):

*# no need for super() if we do not initialize the subclass
that is, we are not using def __init__() method here*

```
def intro(self):
    print(f"I am monster, level {self.level}.")
```

class npc(character):

```
def intro(self):
    print(f"I am npc, level {self.level}.")
```

h = hero(10, 1, "sword")

m = monster(5, 2)

n = npc(1, 9)

chars = [h, m, n]

print()

print("Using subclass methods: polymorphism")

print("Use help(subclass_name) to see MRO")

print("to confirm that child method comes first")

print("Child's method with same name overrides the parent's method")

```
for i in chars:
    i.intro()

print("Using the parent class method; this is NOT polymorphism")
for i in chars:
    i.universal_intro()

print()
print("Using isinstance()...")
print(isinstance(h, hero))
print(isinstance(h, character))
print(isinstance(m, hero))

print()
print("Using issubclass()...")
print(issubclass(hero, character))
print(issubclass(character, hero))
print(issubclass(hero, monster))
print(issubclass(hero, hero))

print("To see MRO use help(): ")
help(hero)
```