

Project Part 1 Example Implementation

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Version 1.1

This code is provided so that everyone has a common starting point for Part 2 of the Project. If you are happy with the Part 1 code you wrote you may, and are encouraged to, use that code instead.

Refer to the [Fingal's Cave software specification](#) for more information about the following code.

If you find bugs in this code please email mfricke@unm.edu.

```
# The following code implements the basic character and weapon classes
# for Part 1 of the Fingal's Cave adventure game. See the Fingal's Cave
# software specification for details.
```

```
import random
from functools import reduce

# Uncomment the following line to fix the random number sequence.
# random.seed(1)

def rollDice( sides , number ):
    rolls=[random.randrange(sides)+1 for i in range(number)]
    print("You rolled", rolls)
    return reduce(lambda x, y: x+y, rolls)

# Weapon Classes
class Weapon:
    def __init__(self):
        self.description = ""

    def setDescription( self , d ):
        self.description = d
```

```

    def getDescription(self):
        return self.description

class Fist(Weapon):
    def damage(self):
        return rollDice(4,1)

class Rock(Weapon):
    def damage(self):
        return rollDice(4,2)

class Club(Weapon):
    def damage(self):
        return rollDice(6,3)

class Sword(Weapon):
    def damage(self):
        return rollDice(8,4)

# Character classes
class Character:
    def __init__(self):
        self.name = ""
        self.health = 0

    def setHealth(self, h):
        self.health = h

    def getHealth(self):
        return self.health

    def setName(self, n):
        self.name = n

    def getName(self):
        return self.name

class Player(Character):
    def __init__(self):
        super().__init__()
        self.carried_weapon = Fist()

# The move functions only have to be defined for Part 1.
# In Part 2 the contents of these functions will be developed.
def moveNorth(self):
    pass

```

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def moveSouth(self):
    pass

def moveWest(self):
    pass

def moveEast(self):
    pass

def hit(self, target):
    target.setHealth(target.getHealth() - self.carried_weapon.damage())

def take(self, w):
    self.carried_weapon = w

def rescue(self, c):
    return isinstance(c, McGuffin)

class Troll(Character):
    def __init__(self):
        super().__init__()

    def hit(self, target):
        target.setHealth(target.getHealth() - rollDice(6,2) )

class Imp(Character):
    def __init__(self):
        super().__init__()

    def hit(self, target):
        target.setHealth(target.getHealth() - rollDice(6,1) )

class McGuffin(Character):
    pass

```