

APCS – Mr. Ascione

Monsterable Interface

OBJECTIVE: This lab was designed to teach you more about objects and classes and how an Interface can be used.



SPEC: In this project, you will be completing methods for a Monster class. Because the Monster class implements Monsterable, you will need to implement each of the methods as shown in the Monsterable interface.

Monsterable contains accessor and modifier methods, along with equals(), compareTo(), clone() and toString() methods.

How do you compare Monsters?

1st criteria – Height

2nd criteria – Weight

3rd criteria – Age

Ex 1:

Monster 1 - Ht – 900 Wt – 987 - Age – 25

Monster 2 - Ht – 900 Wt - 876 - Age – 76

Monster 1 is larger than Monster 2.

monster1.compareTo(monster2) returns a 1!

Ex 2:

Monster 1 - Ht – 800 Wt – 987 - Age – 25

Monster 2 - Ht – 810 Wt - 76 - Age – 11

Monster 1 is smaller than Monster 2.

monster1.compareTo(monster2) returns a -1!

public int compareTo(Object obj)
compareTo will compare this object with the parameter obj.
compareTo will return a negative integer for less than, a positive integer for greater than, and a zero for equality.

```
0    for equality
    one.compareTo(two)
>0   for greater than
    big.compareTo(little)
<0   for less than
    small.compareTo(large)
```

```
C:\Windows\system32\cmd.exe

Monster zero:
Height = 0 Weight = 0 Age = 0

Monster one:
Height = 8 Weight = 0 Age = 0

Monster sam:
Height = 9 Weight = 4 Age = 0

Monster harry:
Height = 1 Weight = 2 Age = 3

Changing harry's properties...

Monster harry:
Height = 7 Weight = 6 Age = 5

Cloning sam into harry...

Monster sam:
Height = 7 Weight = 6 Age = 5

Monster 1:
Height = 33 Weight = 33 Age = 11

Monster 2:
Height = 55 Weight = 33 Age = 11

mOne.equals(mTwo) = false
mOne.compareTo(mTwo) = -1
mTwo.compareTo(mOne) = 1
Press any key to continue . . .
```

Files Needed:

Monsterable.java
Monster.java
MonsterRunner.java