

```
# DWAYNE FRASER
```

```
# PROBLEM 2
```

```
class Product:
```

```
    """ Creates Product Class """
```

```
    def __init__(self, name, mass, quantity, price):
```

```
        self._name = name
```

```
        self._mass = mass
```

```
        self._stock = quantity
```

```
        self._price = price
```

```
    def name(self):
```

```
        return self._name
```

```
    def mass(self):
```

```
        return self._mass
```

```
    def quantity(self):
```

```
        return self._stock
```

```
    def price(self):
```

```
        return self._price
```

```
    def set_price(self, price):
```

```
        self._price = price
```

```
    def __str__(self):
```

```
        return "{}, ${}, {} kg, {} in stock".format(self.name(), self.price(), self.mass(), self.quantity())
```

```
class DiscountedProduct(Product):
```

```
    """ Creates Discounted Product Class """
```

```
    def __init__(self, discount, product):
```

```
        self._product = product
```

```
        self._discount = discount
```

```
    def price(self):
```

```
        return (1.0 - self._discount) * self._product.price()
```

```
    def __str__(self):
```

```
        return "discounted {}: {}: {}, ${}, {} kg, {} in stock".format(self._discount*100, self._product.name(), self.price(), self._product.mass(), self._product.quantity())
```

```
def main():
```

```
    # create a product object for Lavalamps
```

```
    # prints "Lavalamp, $30, 0.8 kg, 123 in quantity"
```

```
    p = Product(name="Lavalamp", price=30, mass=0.8, quantity=123)
```

```
    print(p)
```

```
# create a discounted product of p, with a 20% discount:
```

```
disc_p = DiscountedProduct(0.2, p)
```

```
print(disc_p.price())
```

```
print(disc_p)
```

```
p.set_price(20)
```

```
print(p.price())
```

```
print(disc_p)
```

```
main()
```

```
In [1]: runfile('C:/Program Files (x86)/Work/Python/Python Dwayne Solutions/HW 3/p2_Fraser_Dwayne.py', wdir='C:/Program Files (x86)/Work/Python/Python
Dwayne Solutions/HW 3')
Lavalamp, $30, 0.8 kg, 123 in stock
24.0
discounted 20.0%: Lavalamp, $24.0, 0.8 kg, 123 in stock
20
discounted 20.0%: Lavalamp, $16.0, 0.8 kg, 123 in stock

In [2]:
```