8/7/24, 2:39 AM DAA3

```
In [3]: class ItemValue:
    """Item Value DataClass"""
    def __init__(self, wt_, val_, ind_):
        self.wt = wt
        self.val = val
        self.ind = ind_
        self.cost = val_ // wt_
    def __lt__(self, other):
        return self.cost < other.cost</pre>
def fractionalKnapSack(wt, val, capacity):
    """Function to get maximum value"""
    iVal = [ItemValue(wt[i], val[i], i) for i in range(len(wt))]
    # sorting items by cost
    iVal.sort(key=lambda x: x.cost, reverse=True)
    totalValue = 0
    for i in iVal:
        curWt = i.wt
        curVal = i.val
        if capacity - curWt >= 0:
            capacity -= curWt
            totalValue += curVal
        else:
            fraction = capacity / curWt
            totalValue += curVal * fraction
            capacity = int(capacity - (curWt * fraction))
            break
    return totalValue
if __name__ == "__main__":
    wt = [10, 40, 20, 30]
    val = [60, 40, 100, 120]
    capacity = 50
    # Function call
    maxValue = fractionalKnapSack(wt, val, capacity)
    print("Maximum value in Knapsack =", maxValue)
```

Maximum value in Knapsack = 240.0

```
In [ ]:
```