Assignment 3

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# Structure for an item which stores weight and
# corresponding value of Item
class Item:
    def __init__(self, value, weight):
        self.value = value
        self.weight = weight

# Main greedy function to solve problem
def fractionalKnapsack(W, arr):

    # Sorting Item on basis of ratio
    arr.sort(key=lambda x: (x.value/x.weight), reverse=True)

    # Result(value in Knapsack)
    finalvalue = 0.0

    # Looping through all Items
    for item in arr:

        # If adding Item won't overflow,
        # add it completely
        if item.weight <= W:
            W -= item.weight
            finalvalue += item.value

        # If we can't add current Item,
        # add fractional part of it
        else:
            finalvalue += item.value * W / item.weight
            break

    # Returning final value
    return finalvalue


# Driver Code
if __name__ == "__main__":

    W = 50
    arr = [Item(60, 10), Item(100, 20), Item(120, 30)]

    # Function call
    max_val = fractionalKnapsack(W, arr)
```

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print(max_val)
```

Output: