Title of the Assignment: Write a program to solve a fractional Knapsack problem

using a greedy method. Code :

class Item:

def init (self, value, weight):

self.value = value

self.weight = weight

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)

print(max\_val)