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In [16]: #1
def knapSack(W, wt, val, n):
    if n == 0 or W == 0:
        return 0
    if (wt[n-1] > W):
        return knapSack(W, wt, val, n-1)
    else:
        return max(val[n-1] + knapSack(W-wt[n-1], wt, val, n-1),
                    knapSack(W, wt, val, n-1))

val = [60, 100, 120]
wt = [10, 20, 30]
W = 50
n = len(val)
print (knapSack(W, wt, val, n))
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In [22]: #2
from sys import maxsize
from itertools import permutations
V = 4
def travellingSalesmanProblem(graph, s):
    vertex = []
    for i in range(V):
        if i != s:
            vertex.append(i)
    min_path = maxsize
    next_permutation=permutations(vertex)
    for i in next_permutation:
        current_pathweight = 0
        k = s
        for j in i:
            current_pathweight += graph[k][j]
            k = j
        current_pathweight += graph[k][s]
        min_path = min(min_path, current_pathweight)

    return min_path

if __name__ == "__main__":
    graph = [[0, 10, 15, 20], [10, 0, 35, 25],
             [15, 35, 0, 30], [20, 25, 30, 0]]
    s = 0
    print(travellingSalesmanProblem(graph, s))
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In [7]: #10
import speech_recognition as sr
r = sr.Recognizer()
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In [8]: with sr.Microphone() as source:
        print("Speak something...")
        audio = r.listen(source)
```

Speak something...

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In [9]: audio_file = "harvard.wav"
        with sr.AudioFile(audio_file) as source:
            audio = r.record(source)
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In [10]: try:
          if audio_file:
              text = r.recognize_google(audio)
          else:
              text = r.recognize_google(audio, show_all=False)

          print("Recognized Text: " + text)
        except sr.UnknownValueError:
            print("Unable to recognize speech.")
        except sr.RequestError as e:
            print("Error: {0}".format(e))
```

Recognized Text: the still smell of old beer drinkers it takes hi to bring out the order I called it yourself invest a salt a kotess find the M tacos Al pastor my fa vourite is just for food is Bihar cross bun

In []: