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dict_hn={'Arad':336,'Bucharest':0,'Craiova':160,'Drobeta':242,'Eforie':161,
'Fagaras':176,'Giurgiu':77,'Hirsova':151,'Iasi':226,'Lugoj':244,
'Mehadia':241,'Neamt':234,'Oradea':380,'Pitesti':100,'Rimnicu':193,
'Sibiu':253,'Timisoara':329,'Urziceni':80,'Vaslui':199,'Zerind':374}
dict_gn=dict(
Arad=dict(Zerind=75,Timisoara=118,Sibiu=140),
Bucharest=dict(Urziceni=85,Giurgiu=90,Pitesti=101,Fagaras=211),
Craiova=dict(Drobeta=120,Pitesti=138,Rimnicu=146),
Drobeta=dict(Mehadia=75,Craiova=120),
Eforie=dict(Hirsova=86),
Fagaras=dict(Sibiu=99,Bucharest=211),
Giurgiu=dict(Bucharest=90),
Hirsova=dict(Eforie=86,Urziceni=98),
Iasi=dict(Neamt=87,Vaslui=92),
Lugoj=dict(Mehadia=70,Timisoara=111),
Mehadia=dict(Lugoj=70,Drobeta=75),
Neamt=dict(Iasi=87),
Oradea=dict(Zerind=71,Sibiu=151),
Pitesti=dict(Rimnicu=97,Bucharest=101,Craiova=138),
Rimnicu=dict(Sibiu=80,Pitesti=97,Craiova=146),
Sibiu=dict(Rimnicu=80,Fagaras=99,Arad=140,Oradea=151),
Timisoara=dict(Lugoj=111,Arad=118),
Urziceni=dict(Bucharest=85,Hirsova=98,Vaslui=142),
Vaslui=dict(Iasi=92,Urziceni=142),
Zerind=dict(Oradea=71,Arad=75)
)
import queue as Q

start = 'Arad'
goal = 'Bucharest'
result = ''

def get_fn(citystr):
    cities = citystr.split(" , ")
    hn = gn = 0
    for ctr in range(0, len(cities)-1):
        gn = gn+dict_gn[cities[ctr]][cities[ctr+1]]
    hn = dict_hn[cities[len(cities)-1]]
    return(hn+gn)

def expand(cityq):
    global result
    tot, citystr, thiscity = cityq.get()
    if thiscity == goal:
        result = citystr+" : : "+str(tot)
        return
    for cty in dict_gn[thiscity]:
        cityq.put((get_fn(citystr+" , "+cty), citystr+" , "+cty, cty))
    expand(cityq)

def main():
    cityq = Q.PriorityQueue()
    thiscity = start
    cityq.put((get_fn(start), start, thiscity))
    expand(cityq)
    print("The A* path wiht total is : ")
    print(result)

main()

➦ The A* path wiht total is :
  Arad , Sibiu , Rimnicu , Pitesti , Bucharest : : 418

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