



**CODE :**

doubling\_costs = []

current\_length = 1

potential = []

for i in range(1, 11):

    if current\_length < i:

        current\_length \*= 2

        doubling\_costs.append(i-1)

    else:

        doubling\_costs.append(0)

potential.append(2\*i- current\_length)

total\_cost = [x+1 for x in doubling\_costs]

print('Doubling Cost\t Iteration\t Total Cost\t Potential\tAmortized Cost')

print(f'{doubling\_costs[0]}\t\t {1}\t\t {total\_cost[0]}\t\t{potential[0]}\t\t {total\_cost[0] + potential[0]}')

for j in range(1, 10):

    amortized\_cost = total\_cost[j] + potential[j]- potential[j-1]

print(f'{doubling\_costs[j]}\t\t {1}\t\t {total\_cost[j]}\t\t{potential[j]}\t\t {amortized\_cost}')

**OUTPUT :**

