Assignment # 02

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Course: Software Engineering

Section: AI-3C

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Question no 01;

Nested List Sum:

```
Def nested-sum(lst):

Total =0

for item in lst:

if isinstance (item,list):

total+ =nested-sum(item)

else:

total+=item
```

return total

Question no 02;

Max Product in Nested Dictionary:

```
Product = {
“Electronics”: {“laptop”: ,1200, “Phone”:800},
“Clothes”: {“Shirt”: ,50, “Shoes”:100},
“Grocery”: {“Rice”: ,20, “Milk”:10},
}
Max-product=””
Max price=0
for category in products:
        for item,price in product[category].item():
if price>max-price:
max-price=price
max-product=item
print (max-product,max-price)
```

Question no 03:

Nested list in Dictionary:

```
Def count_frequency(lst,freq=name):
If freq is None:
        Freq = {}
        for item in list:
        if isinstance(item,list):
        count_frequency(item,freq)
        else:
```

```
        freq[item]=freq.get(item,0)+1
        return freq
```

Question no 04;

GPS (1)

{‘action’: ‘more-green-disk-to-table’,

‘preconds’:[‘green-disk-on-top’,’green-disk-on-pole’],

‘Add’:[‘green-disk-on-table’,’’blue-disk-on-top’],

‘delete’:[‘green-disk-on-top’,’green-disk-on-pole’]},

{‘action’: ‘more-blue-disk-to-table’,

‘preconds’:[‘blue-disk-on-top’,’blue-disk-on-pole’],

‘Add’:[‘blue-disk-on-table’,’’red-disk-on-top’],

‘delete’:[‘blue-disk-on-top’,’blue-disk-on-pole’]},

{‘action’: move-red-disk-to-Pole’,

‘preconds’:[‘red-disk-on-top’,’red-disk-on-pole’],

‘Add’:[‘red-disk-on-table’],

‘delete’:[‘red-disk-on-top’,’red-disk-on-top’]},

{‘action’: move-blue-disk-to-Pole’,

‘preconds’:[‘blue-disk-on-Pole’,’red-disk-on-top’],

‘Add’:[‘blue-disk-on-pole’, ‘blue-disk-on-top’],

‘delete’:[‘blue-disk-on-table’,’ blue-disk-on-top’]},

{‘action’: move-green-disk-to-Pole’,

‘preconds’:[‘green-disk-on-Pole’,’blue-disk-on-top’],

‘Add’:[‘green-disk-on-pole’, ‘green-disk-on-top’],

‘delete’:[‘green-disk-on-table’,’ blue-disk-on-top’]},

]

GPS(2)

{‘action’: ‘P and Q cross side1 → side2’,

‘preconds’:[‘P side1’, ‘Qside1’,’Lantern side1’],

‘Add’:[‘P side2’,’Qside2’,’Lantern side2’],

‘delete’:[‘Pside1’,’Qside1’,’lantern side’]},

{‘action’: ‘P return side2 → side1’,

‘preconds’:[‘P side2’,’Lantern side2’],

‘Add’:[‘P side1’,’Lantern side1’],

‘delete’:[‘Pside2’,’lantern side2’]},

{‘action’: ‘R and S cross side1 → side2’,

‘preconds’:[‘R side1’,’S side1’,’Lantern side1’],

‘Add’:[‘R side2’,’S side2’,’Lantern side2’],

‘delete’:[‘Rside1’,’S side1’’lantern side1’]},

{‘action’: ‘Q return side2 → side1’,

‘preconds’:[‘Q side2’,’Lantern side2’],

‘Add’:[‘Q side1’,’Lantern side1’],

‘delete’:[‘Qside2’,’lantern side2’]},

{‘action’: ‘P and Q cross side1 → side2 again’,

‘preconds’:[‘P side1’,’Q side1’,’Lantern side1’],

‘Add’:[‘P side2’,’Q side2’,’Lantern side2’],

‘delete’:[‘Pside1’,’Q side1’’lantern side1’]},

]