DSl1_C5_S2_Practice

Task 1 ¶

In [15]:

```
import math as m
```

In [16]:

```
# import lib for permutation and combination
from itertools import permutations, combinations, combinations_with_replacement, product
# product: permutation with replacement
```

In [17]:

```
# a. 3 man and 2 women
men = ['M1','M2','M3','M4','M5','M6']
women =['W1','W2','W3', 'W4']
len(list(combinations(men,3)))*len(list(combinations(women,2)))
```

Out[17]:

```
120
```

In [18]:

```
#b . only men
```

In [19]:

```
len(list(combinations (men,5)))
```

Out[19]:

```
6
```

In [20]:

```
# 4 women and 1 men
len(list(combinations(men,1)))*len(list(combinations(women,4)))
```

Out[20]:

```
6
```

In [21]:

```
len(list(combinations(men,1)))*len(list(combinations(women,4)))+len(list(combinations(men,2
```

Out[21]:

```
66
```

Task 2

In [22]:

```
cards=[i for i in range(1,53)]
len(list(combinations(cards, 5)))
```

Out[22]:

```
2598960
```

Task 3

In [23]:

```
ct = ['Alice','Ava', 'Charlie', 'David', 'Eve', 'Frank', 'George','Mia']
len(list(permutations(ct,3)))
```

Out[23]:

```
336
```

Task 4

In [26]:

```
m.factorial(15)-m.factorial(14)*2
```

Out[26]:

```
1133317785600
```

Task 5

In [36]:

```
d1 = [1,2,3,4,5,6]
len(list(combinations(d1,1)))*len(list(combinations(d1,1)))
print('probabilty of such a pairs :',4/36, 'or 1/9')
```

```
probabilty of such a pairs : 0.1111111111111111 or 1/9
```

Task 6

In [30]:

```
con =[1,2,3,4,5,6,7,8]
vo =[1,2,3,4]
len(list(combinations(con,3)))*len(list(combinations(vo,2)))
```

Out[30]:

```
336
```

Task 7

In [32]:

```
print("Total number of good bulb :", 25*0.75)
```

```
Total number of good bulb : 18.75
```

In [31]:

```
print("Probablity of good bulb : ", 25*0.75/25)
```

```
Probablity of good bulb :  0.75
```

In [ ]:

```

```