

Action	No index	Star index	Movies index	Index both
Q1	100	4	100	4
Q2	100	100	4	4
I	2	4	4	6
Equation	$98p_1+98p_2+2$	$96p_2+4$	$96p_1+4$	$6-2p_1-2p_2$

1. if $p_1 = p_2 = 0.1$

No index =21.6 ,Star index =13.600000000000001 ,Movies index =13.600000000000001 ,Index both =5.6

2. if $p_1 = p_2 = 0.4$

No index =80.4 ,Star index =42.400000000000006 ,Movies index =42.400000000000006 ,Index both =4.4

3. if $p_1 = 0.5, p_2 = 0.1$

No index =60.8 ,Star index =13.600000000000001 ,Movies index =52.0 ,Index both =4.8

4. if $p_1 = 0.1, p_2 = 0.5$

No index =60.8 ,Star index =52.0 ,Movies index =13.600000000000001 ,Index both =4.8

We would prefer to create both indexes. Compare to 10-page-data, I think the more data we have, the more likely we create indexes.

Python code:

```
def f(p1,p2):
    s='No index ='
    s+= str(98*p1+98*p2+2)
    s+= ',Star index ='
    s+= str(96*p2+4)
    s+= ',Movies index ='
    s+= str(96*p1+4)
    s+= ',Index both ='
    s+= str(6-2*p1-2*p2)
    return s
```