

Initial Parameters...

R(load) = 500 ohms

r = 1.00

w = 0.90

```
-----
INITIAL Particle 1 :: pos(duty)= 0.40000000 fitness(Output Power)= 10.64447425
INITIAL Particle 2 :: pos(duty)= 0.60000000 fitness(Output Power)= 23.53304429
INITIAL Particle 3 :: pos(duty)= 0.80000000 fitness(Output Power)= 88.83299511
```

```
=====
++++Start of Iterations++++
=====
```

Iteration No: 1

c1 = 0.50000000 c2 = 0.50000000

velocity =

0.2000

0.1000

0

```
Particle 1 :: pos(duty)= 0.60000000 fitness(Output Power)= 23.53304429
Particle 2 :: pos(duty)= 0.70000000 fitness(Output Power)= 41.29564226
Particle 3 :: pos(duty)= 0.80000000 fitness(Output Power)= 88.83299511
```

Updated best Fitness Position = 0.80000000

```
-----
Iteration No: 2
```

c1 = 0.50000000 c2 = 0.50000000

velocity =

0.2800

0.1400

0

```
Particle 1 :: pos(duty)= 0.88000000 fitness(Output Power)= 180.20034509
Particle 2 :: pos(duty)= 0.84000000 fitness(Output Power)= 131.12383688
Particle 3 :: pos(duty)= 0.80000000 fitness(Output Power)= 88.83299511
```

Updated best Fitness Position = 0.88000000

```
-----
Iteration No: 3
```

c1 = 0.50000000 c2 = 0.50000000

velocity =

0.2520

0.1460

0.0400

```
Particle 1 :: pos(duty)= 0.95000000 fitness(Output Power)= 37.11431295
Particle 2 :: pos(duty)= 0.98600000 fitness(Output Power)= 2.88849967
Particle 3 :: pos(duty)= 0.84000000 fitness(Output Power)= 131.12383688
```

Updated best Fitness Position = 0.88000000

-----

Iteration No: 4

c1 = 0.50000000 c2 = 0.50000000

velocity =

0.1568

0.0054

0.0560

```
Particle 1 :: pos(duty)= 0.95000000 fitness(Output Power)= 37.11431295
Particle 2 :: pos(duty)= 0.99140000 fitness(Output Power)= 1.08999996
Particle 3 :: pos(duty)= 0.89600000 fitness(Output Power)= 157.79629560
```

Updated best Fitness Position = 0.88000000

-----

Iteration No: 5

c1 = 0.50000000 c2 = 0.50000000

velocity =

0.0711

-0.1265

0.0424

```
Particle 1 :: pos(duty)= 0.95000000 fitness(Output Power)= 37.11431295
Particle 2 :: pos(duty)= 0.86486000 fitness(Output Power)= 166.39730538
Particle 3 :: pos(duty)= 0.93840000 fitness(Output Power)= 56.29752546
```

Updated best Fitness Position = 0.88000000

-----

Iteration No: 6

c1 = 0.50000000 c2 = 0.50000000

velocity =

-0.0060

-0.1063

-0.0122

```
Particle 1 :: pos(duty)= 0.94400800 fitness(Output Power)= 46.54256470
Particle 2 :: pos(duty)= 0.75854400 fitness(Output Power)= 62.85315593
Particle 3 :: pos(duty)= 0.92616000 fitness(Output Power)= 80.92615974
```

Updated best Fitness Position = 0.88000000

-----

Iteration No: 7

c1 = 0.50000000 c2 = 0.50000000

velocity =

-0.0694

0.0182

-0.0492

Particle 1 :: pos(duty)= 0.87460720 fitness(Output Power)= 177.63976290

Particle 2 :: pos(duty)= 0.77674560 fitness(Output Power)= 72.78762365

Particle 3 :: pos(duty)= 0.87698400 fitness(Output Power)= 179.25967359

Updated best Fitness Position = 0.88000000

-----

Iteration No: 8

c1 = 0.50000000 c2 = 0.50000000

velocity =

-0.0571

0.1121

-0.0428

Particle 1 :: pos(duty)= 0.81753928 fitness(Output Power)= 104.77749471

Particle 2 :: pos(duty)= 0.88881144 fitness(Output Power)= 173.44213155

Particle 3 :: pos(duty)= 0.83423360 fitness(Output Power)= 123.71128026

Updated best Fitness Position = 0.88000000

-----

Iteration No: 9

c1 = 0.50000000 c2 = 0.50000000

velocity =

0.0111

0.0965

0.0058

Particle 1 :: pos(duty)= 0.82863887 fitness(Output Power)= 117.11244186

Particle 2 :: pos(duty)= 0.98526498 fitness(Output Power)= 3.21549959

Particle 3 :: pos(duty)= 0.84001664 fitness(Output Power)= 131.12383688

Updated best Fitness Position = 0.88000000

-----

Iteration No: 10

c1 = 0.50000000 c2 = 0.50000000

velocity =

0.0614

-0.0141

0.0437

Particle 1 :: pos(duty)= 0.88998963 fitness(Output Power)= 171.37850719

Particle 2 :: pos(duty)= 0.97121390 fitness(Output Power)= 12.26249191

Particle 3 :: pos(duty)= 0.88369674 fitness(Output Power)= 179.24830963

Updated best Fitness Position = 0.88000000

-----

Iteration No: 11

c1 = 0.50000000 c2 = 0.50000000

velocity =

0.0452

-0.0995

0.0341

Particle 1 :: pos(duty)= 0.93521568 fitness(Output Power)= 62.29193660

Particle 2 :: pos(duty)= 0.87175975 fitness(Output Power)= 174.97302329

Particle 3 :: pos(duty)= 0.91780409 fitness(Output Power)= 100.25468463

Updated best Fitness Position = 0.88000000

-----

Iteration No: 12

c1 = 0.50000000 c2 = 0.50000000

velocity =

-0.0145

-0.0854

-0.0086

Particle 1 :: pos(duty)= 0.92070345 fitness(Output Power)= 93.34298304

Particle 2 :: pos(duty)= 0.78637114 fitness(Output Power)= 78.69536856

Particle 3 :: pos(duty)= 0.90918862 fitness(Output Power)= 122.23563456

Updated best Fitness Position = 0.88000000

-----

Iteration No: 13

c1 = 0.50000000 c2 = 0.50000000

velocity =

```
-0.0538
0.0127
-0.0385
```

```
Particle 1 :: pos(duty)= 0.86693899 fitness(Output Power)= 169.21479793
Particle 2 :: pos(duty)= 0.79903013 fitness(Output Power)= 88.39092122
Particle 3 :: pos(duty)= 0.87073808 fitness(Output Power)= 173.86274458
```

```
Updated best Fitness Position = 0.88000000
```

```
-----
```

```
Iteration No: 14
```

```
c1 = 0.50000000 c2 = 0.50000000
```

```
velocity =
```

```
-0.0353
0.0882
-0.0269
```

```
Particle 1 :: pos(duty)= 0.83161199 fitness(Output Power)= 120.64004399
Particle 2 :: pos(duty)= 0.88727296 fitness(Output Power)= 175.73918461
Particle 3 :: pos(duty)= 0.84388651 fitness(Output Power)= 136.29836723
```

```
Updated best Fitness Position = 0.88000000
```

```
-----
```

```
Iteration No: 15
```

```
c1 = 0.50000000 c2 = 0.50000000
```

```
velocity =
```

```
0.0166
0.0758
0.0104
```

```
Particle 1 :: pos(duty)= 0.84820570 fitness(Output Power)= 142.39474776
Particle 2 :: pos(duty)= 0.96305503 fitness(Output Power)= 20.21947095
Particle 3 :: pos(duty)= 0.85432559 fitness(Output Power)= 151.24856842
```

```
Updated best Fitness Position = 0.88000000
```

```
-----
```

```
Iteration No: 16
```

```
c1 = 0.50000000 c2 = 0.50000000
```

```
velocity =
```

```
0.0467
-0.0112
0.0336
```

```
Particle 1 :: pos(duty)= 0.89493434 fitness(Output Power)= 160.48570559
Particle 2 :: pos(duty)= 0.95184034 fitness(Output Power)= 34.44385528
Particle 3 :: pos(duty)= 0.88788717 fitness(Output Power)= 174.88642433
```

Updated best Fitness Position = 0.88000000

-----

Iteration No: 17

c1 = 0.50000000 c2 = 0.50000000

velocity =

```
0.0271
-0.0783
0.0208
```

```
Particle 1 :: pos(duty)= 0.92205578 fitness(Output Power)= 90.18511591
Particle 2 :: pos(duty)= 0.87354326 fitness(Output Power)= 176.72577189
Particle 3 :: pos(duty)= 0.90869742 fitness(Output Power)= 123.53270145
```

Updated best Fitness Position = 0.88000000

-----

Iteration No: 18

c1 = 0.50000000 c2 = 0.50000000

velocity =

```
-0.0176
-0.0672
-0.0115
```

```
Particle 1 :: pos(duty)= 0.90440929 fitness(Output Power)= 135.09462970
Particle 2 :: pos(duty)= 0.80630426 fitness(Output Power)= 94.42413991
Particle 3 :: pos(duty)= 0.89722122 fitness(Output Power)= 154.59798892
```

Updated best Fitness Position = 0.88000000

-----

Iteration No: 19

c1 = 0.50000000 c2 = 0.50000000

velocity =

```
-0.0403
0.0100
-0.0291
```

```
Particle 1 :: pos(duty)= 0.86411816 fitness(Output Power)= 165.39829436
Particle 2 :: pos(duty)= 0.81625653 fitness(Output Power)= 103.63696002
Particle 3 :: pos(duty)= 0.86816342 fitness(Output Power)= 170.80824447
```

Updated best Fitness Position = 0.88000000

-----

Iteration No: 20

c1 = 0.50000000 c2 = 0.50000000

velocity =

-0.0204

0.0695

-0.0158

Particle 1 :: pos(duty)= 0.84373798 fitness(Output Power)= 136.04997297

Particle 2 :: pos(duty)= 0.88572867 fitness(Output Power)= 177.59443428

Particle 3 :: pos(duty)= 0.85233998 fitness(Output Power)= 148.42388621

Updated best Fitness Position = 0.88000000

-----

Iteration No: 21

c1 = 0.50000000 c2 = 0.50000000

velocity =

0.0179

0.0597

0.0119

Particle 1 :: pos(duty)= 0.86165784 fitness(Output Power)= 161.97680812

Particle 2 :: pos(duty)= 0.94538927 fitness(Output Power)= 44.25364283

Particle 3 :: pos(duty)= 0.86425090 fitness(Output Power)= 165.62438538

Updated best Fitness Position = 0.88000000

-----

Iteration No: 22

c1 = 0.50000000 c2 = 0.50000000

velocity =

0.0345

-0.0088

0.0250

Particle 1 :: pos(duty)= 0.89612787 fitness(Output Power)= 157.44982157

Particle 2 :: pos(duty)= 0.93655887 fitness(Output Power)= 59.73072029

Particle 3 :: pos(duty)= 0.88921183 fitness(Output Power)= 172.77324162

Updated best Fitness Position = 0.88000000

-----

Iteration No: 23

c1 = 0.50000000 c2 = 0.50000000

velocity =

0.0149  
-0.0616  
0.0117

Particle 1 ::	pos(duty)=	0.91102303	fitness(Output Power)=	117.36402251
Particle 2 ::	pos(duty)=	0.87491698	fitness(Output Power)=	177.89690255
Particle 3 ::	pos(duty)=	0.90095684	fitness(Output Power)=	144.58684780

Updated best Fitness Position = 0.88000000

-----

Iteration No: 24

c1 = 0.50000000 c2 = 0.50000000

velocity =

-0.0176  
-0.0529  
-0.0119

Particle 1 ::	pos(duty)=	0.89340564	fitness(Output Power)=	164.18122945
Particle 2 ::	pos(duty)=	0.82198079	fitness(Output Power)=	109.56403072
Particle 3 ::	pos(duty)=	0.88906251	fitness(Output Power)=	173.03573716

Updated best Fitness Position = 0.88000000

-----

Iteration No: 25

c1 = 0.50000000 c2 = 0.50000000

velocity =

-0.0293  
0.0078  
-0.0213

Particle 1 ::	pos(duty)=	0.86414435	fitness(Output Power)=	165.51163464
Particle 2 ::	pos(duty)=	0.82981592	fitness(Output Power)=	118.41365630
Particle 3 ::	pos(duty)=	0.86778710	fitness(Output Power)=	170.38191101

Updated best Fitness Position = 0.88000000

-----

Iteration No: 26

c1 = 0.50000000 c2 = 0.50000000



velocity =

-0.0105  
0.0547  
-0.0084

Particle 1 ::	pos(duty)=	0.85366484	fitness(Output Power)=	150.32826910
Particle 2 ::	pos(duty)=	0.88451011	fitness(Output Power)=	178.69711064
Particle 3 ::	pos(duty)=	0.85934414	fitness(Output Power)=	158.63851922

Updated best Fitness Position = 0.88000000

-----

Iteration No: 27

c1 = 0.50000000 c2 = 0.50000000

velocity =

0.0169  
0.0470  
0.0115

Particle 1 ::	pos(duty)=	0.87056844	fitness(Output Power)=	173.66461658
Particle 2 ::	pos(duty)=	0.93147983	fitness(Output Power)=	69.70274294
Particle 3 ::	pos(duty)=	0.87089333	fitness(Output Power)=	174.05706932

Updated best Fitness Position = 0.88000000

-----

Iteration No: 28

c1 = 0.50000000 c2 = 0.50000000

velocity =

0.0246  
-0.0070  
0.0180

Particle 1 ::	pos(duty)=	0.89521324	fitness(Output Power)=	159.80698669
Particle 2 ::	pos(duty)=	0.92452780	fitness(Output Power)=	84.57573182
Particle 3 ::	pos(duty)=	0.88888627	fitness(Output Power)=	173.33204910

Updated best Fitness Position = 0.88000000

-----

Iteration No: 29

c1 = 0.50000000 c2 = 0.50000000

velocity =

0.0070  
-0.0485

0.0058

```
Particle 1 :: pos(duty)= 0.90218032 fitness(Output Power)= 141.21305826
Particle 2 :: pos(duty)= 0.87599823 fitness(Output Power)= 178.66252211
Particle 3 :: pos(duty)= 0.89468565 fitness(Output Power)= 161.11206372
```

Updated best Fitness Position = 0.88000000

-----

Iteration No: 30

c1 = 0.50000000 c2 = 0.50000000

velocity =

-0.0159  
-0.0374  
-0.0110

```
Particle 1 :: pos(duty)= 0.88627037 fitness(Output Power)= 176.99902286
Particle 2 :: pos(duty)= 0.83857844 fitness(Output Power)= 129.20680502
Particle 3 :: pos(duty)= 0.88371144 fitness(Output Power)= 179.24830963
```

Updated best Fitness Position = 0.88000000

-----

Iteration No: 31

c1 = 0.50000000 c2 = 0.50000000

velocity =

-0.0206  
0.0100  
-0.0151

```
Particle 1 :: pos(duty)= 0.86568105 fitness(Output Power)= 167.55540107
Particle 2 :: pos(duty)= 0.84857724 fitness(Output Power)= 142.83579173
Particle 3 :: pos(duty)= 0.86861521 fitness(Output Power)= 171.38466596
```

Updated best Fitness Position = 0.88000000

-----

Iteration No: 32

c1 = 0.50000000 c2 = 0.50000000

velocity =

-0.0042  
0.0427  
-0.0037

```
Particle 1 :: pos(duty)= 0.86146961 fitness(Output Power)= 161.71341890
Particle 2 :: pos(duty)= 0.89125397 fitness(Output Power)= 168.90620128
```

```
Particle 3 :: pos(duty)= 0.86490540 fitness(Output Power)= 166.50541332
```

```
Updated best Fitness Position = 0.88000000
```

```
-----
```

```
Iteration No: 33
```

```
c1 = 0.50000000 c2 = 0.50000000
```

```
velocity =
```

```
0.0147
```

```
0.0294
```

```
0.0102
```

```
Particle 1 :: pos(duty)= 0.87620970 fitness(Output Power)= 178.80035182
```

```
Particle 2 :: pos(duty)= 0.92066411 fitness(Output Power)= 93.39742277
```

```
Particle 3 :: pos(duty)= 0.87515317 fitness(Output Power)= 178.07101054
```

```
Updated best Fitness Position = 0.88000000
```

```
-----
```

```
Iteration No: 34
```

```
c1 = 0.50000000 c2 = 0.50000000
```

```
velocity =
```

```
0.0171
```

```
-0.0119
```

```
0.0126
```

```
Particle 1 :: pos(duty)= 0.89326609 fitness(Output Power)= 164.50487097
```

```
Particle 2 :: pos(duty)= 0.90872418 fitness(Output Power)= 123.42464978
```

```
Particle 3 :: pos(duty)= 0.88771499 fitness(Output Power)= 175.12110926
```

```
Updated best Fitness Position = 0.88000000
```

```
-----
```

```
Iteration No: 35
```

```
c1 = 0.50000000 c2 = 0.50000000
```

```
velocity =
```

```
0.0021
```

```
-0.0372
```

```
0.0021
```

```
Particle 1 :: pos(duty)= 0.89535075 fitness(Output Power)= 159.41728066
```

```
Particle 2 :: pos(duty)= 0.87150911 fitness(Output Power)= 174.73769341
```

```
Particle 3 :: pos(duty)= 0.88979764 fitness(Output Power)= 171.73393905
```

```
Updated best Fitness Position = 0.88000000
```

-----

Iteration No: 36

c1 = 0.50000000 c2 = 0.50000000

velocity =

-0.0135

-0.0227

-0.0094

Particle 1 :: pos(duty)= 0.88187619 fitness(Output Power)= 180.04542962

Particle 2 :: pos(duty)= 0.84876149 fitness(Output Power)= 143.27298669

Particle 3 :: pos(duty)= 0.88036638 fitness(Output Power)= 180.21935595

Updated best Fitness Position = 0.88036638

-----

Iteration No: 37

c1 = 0.50000000 c2 = 0.50000000

velocity =

-0.0138

0.0132

-0.0085

Particle 1 :: pos(duty)= 0.86805609 fitness(Output Power)= 170.63918686

Particle 2 :: pos(duty)= 0.86196539 fitness(Output Power)= 162.36700335

Particle 3 :: pos(duty)= 0.87187825 fitness(Output Power)= 175.14535021

Updated best Fitness Position = 0.88036638

-----

Iteration No: 38

c1 = 0.50000000 c2 = 0.50000000

velocity =

-0.0003

0.0324

0.0008

Particle 1 :: pos(duty)= 0.86774510 fitness(Output Power)= 170.29516163

Particle 2 :: pos(duty)= 0.89432175 fitness(Output Power)= 161.97282049

Particle 3 :: pos(duty)= 0.87272706 fitness(Output Power)= 175.95472180

Updated best Fitness Position = 0.88036638

-----

Iteration No: 39

```
c1 = 0.50000000    c2 = 0.50000000
velocity =
```

```
0.0122
0.0172
0.0084
```

```
Particle 1 :: pos(duty)= 0.87990330    fitness(Output Power)= 180.19427989
Particle 2 :: pos(duty)= 0.91155897    fitness(Output Power)= 116.00899464
Particle 3 :: pos(duty)= 0.88113032    fitness(Output Power)= 180.18011101
```

```
Updated best Fitness Position = 0.88036638
```

```
-----
```

```
Iteration No: 40
```

```
c1 = 0.50000000    c2 = 0.50000000
velocity =
```

```
0.0112
-0.0136
0.0068
```

```
Particle 1 :: pos(duty)= 0.89112557    fitness(Output Power)= 169.16089487
Particle 2 :: pos(duty)= 0.89795174    fitness(Output Power)= 152.66996372
Particle 3 :: pos(duty)= 0.88792931    fitness(Output Power)= 174.81870436
```

```
Updated best Fitness Position = 0.88036638
```

```
-----
```

```
Iteration No: 41
```

```
c1 = 0.50000000    c2 = 0.50000000
velocity =
```

```
-0.0008
-0.0278
-0.0014
```

```
Particle 1 :: pos(duty)= 0.89028323    fitness(Output Power)= 170.81718556
Particle 2 :: pos(duty)= 0.87019174    fitness(Output Power)= 173.25678950
Particle 3 :: pos(duty)= 0.88648548    fitness(Output Power)= 176.74216842
```

```
Updated best Fitness Position = 0.88036638
```

```
-----
```

```
Iteration No: 42
```

```
c1 = 0.50000000    c2 = 0.50000000
velocity =
```

```
-0.0109
```

-0.0127  
-0.0074

Particle 1 ::	pos(duty)=	0.87942509	fitness(Output Power)=	180.12862488
Particle 2 ::	pos(duty)=	0.85745424	fitness(Output Power)=	155.86826216
Particle 3 ::	pos(duty)=	0.87906694	fitness(Output Power)=	180.05610147

Updated best Fitness Position = 0.88036638

-----

Iteration No: 43

c1 = 0.50000000 c2 = 0.50000000

velocity =

-0.0090  
0.0135  
-0.0054

Particle 1 ::	pos(duty)=	0.87041086	fitness(Output Power)=	173.53039848
Particle 2 ::	pos(duty)=	0.87097450	fitness(Output Power)=	174.12100597
Particle 3 ::	pos(duty)=	0.87368970	fitness(Output Power)=	176.86015402

Updated best Fitness Position = 0.88036638

-----

Iteration No: 44

c1 = 0.50000000 c2 = 0.50000000

velocity =

0.0017  
0.0236  
0.0018

Particle 1 ::	pos(duty)=	0.87207039	fitness(Output Power)=	175.31414398
Particle 2 ::	pos(duty)=	0.89460648	fitness(Output Power)=	161.30400937
Particle 3 ::	pos(duty)=	0.87552687	fitness(Output Power)=	178.36480962

Updated best Fitness Position = 0.88036638

-----

Iteration No: 45

c1 = 0.50000000 c2 = 0.50000000

velocity =

0.0096  
0.0091  
0.0065

Particle 1 ::	pos(duty)=	0.88167676	fitness(Output Power)=	180.08928929
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```
Particle 2 :: pos(duty)= 0.90370703 fitness(Output Power)= 137.01646702
Particle 3 :: pos(duty)= 0.88201984 fitness(Output Power)= 180.00432768
```

Updated best Fitness Position = 0.88036638

-----

Iteration No: 46

c1 = 0.50000000 c2 = 0.50000000

velocity =

```
0.0072
-0.0131
0.0042
```

```
Particle 1 :: pos(duty)= 0.88882893 fitness(Output Power)= 173.40550084
Particle 2 :: pos(duty)= 0.89062874 fitness(Output Power)= 170.16367659
Particle 3 :: pos(duty)= 0.88621006 fitness(Output Power)= 177.05507929
```

Updated best Fitness Position = 0.88036638

-----

Iteration No: 47

c1 = 0.50000000 c2 = 0.50000000

velocity =

```
-0.0022
-0.0200
-0.0021
```

```
Particle 1 :: pos(duty)= 0.88662014 fitness(Output Power)= 176.59627927
Particle 2 :: pos(duty)= 0.87066779 fitness(Output Power)= 173.79712647
Particle 3 :: pos(duty)= 0.88413758 fitness(Output Power)= 178.95726480
```

Updated best Fitness Position = 0.88036638

-----

Iteration No: 48

c1 = 0.50000000 c2 = 0.50000000

velocity =

```
-0.0084
-0.0062
-0.0056
```

```
Particle 1 :: pos(duty)= 0.87819528 fitness(Output Power)= 179.78985405
Particle 2 :: pos(duty)= 0.86447339 fitness(Output Power)= 165.95912087
Particle 3 :: pos(duty)= 0.87850116 fitness(Output Power)= 179.90540009
```

Updated best Fitness Position = 0.88036638

-----

Iteration No: 49

c1 = 0.50000000 c2 = 0.50000000

velocity =

-0.0056

0.0124

-0.0032

Particle 1 :: pos(duty)= 0.87260082 fitness(Output Power)= 175.85174488

Particle 2 :: pos(duty)= 0.87686329 fitness(Output Power)= 179.19376617

Particle 3 :: pos(duty)= 0.87529360 fitness(Output Power)= 178.17171672

Updated best Fitness Position = 0.88036638

-----

Iteration No: 50

c1 = 0.50000000 c2 = 0.50000000

velocity =

0.0025

0.0129

0.0022

Particle 1 :: pos(duty)= 0.87514817 fitness(Output Power)= 178.07101054

Particle 2 :: pos(duty)= 0.88976574 fitness(Output Power)= 171.77316225

Particle 3 :: pos(duty)= 0.87747959 fitness(Output Power)= 179.49937519

Updated best Fitness Position = 0.88036638

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