

Relatório Intermediário

Maria Eduarda Bicalho

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1 Descrição do Problema

Text is written

1.1 Máquina utilizada

Falar sobre máquina

2 Efeito número de pessoas

Análise do impacto de uma entrada com diferentes números de pessoas nos 3 diferentes algoritmos implementados no projeto.

```
import subprocess
import time
import matplotlib.pyplot as plt

def roda(ex, in_f):
    with open(in_f) as f:
        start = time.perf_counter()
        proc = subprocess.run([ex], input=f.read(), text=True, capture_output=True)
        end = time.perf_counter()
        return proc.stdout, end-start

args = [f"inp/in{i}.txt" for i in range(5)]
heuristica=[]
local=[]
exaus=[]
outsh=[]
outsl=[]
outsg=[]
```

2.1 Tempo

Nessa seção o tempo será analisado nos diferentes algoritmos

2.1.1 Heurística

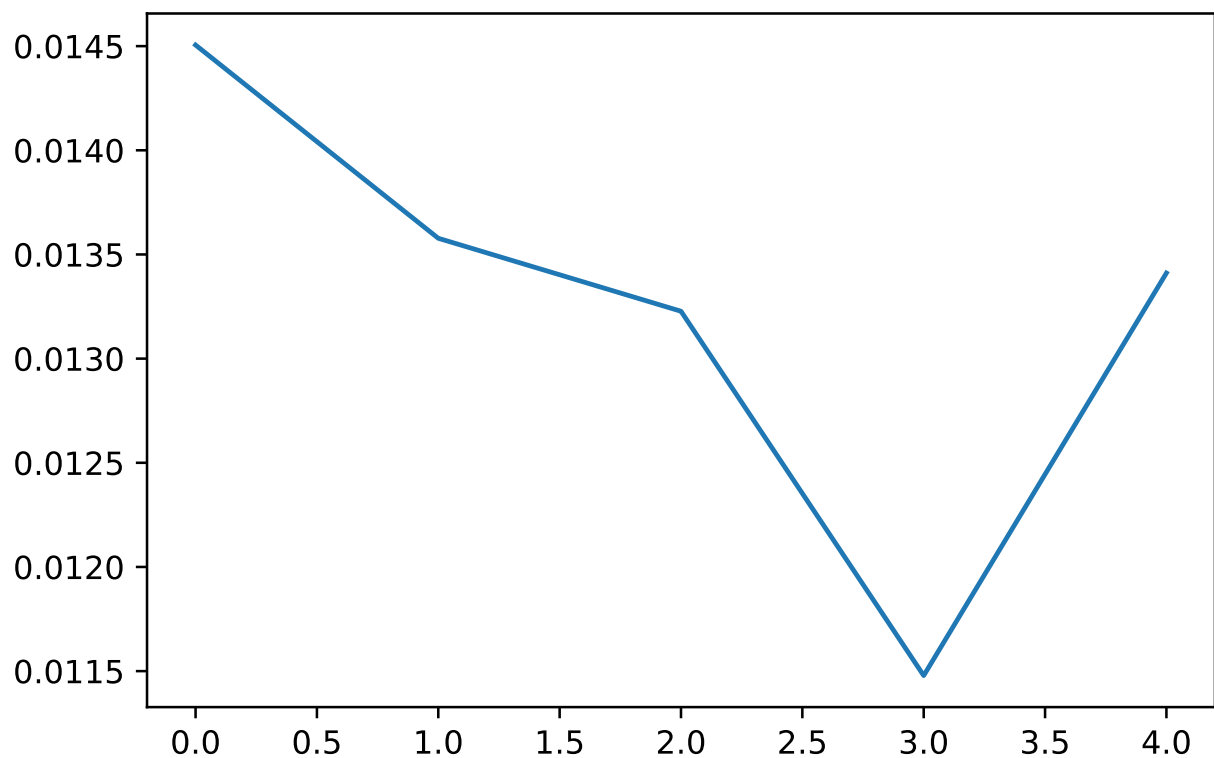
Primeiramente, análise da Heurística

```
import matplotlib.pyplot as plt

for arq in arqs:
    heuristica.append(roda('./heuristica', arq)[1])
    with open("out.txt",'r') as f:
        line = f.readlines()
        outsh.append(int(line[0]))

plt.plot(heuristica)

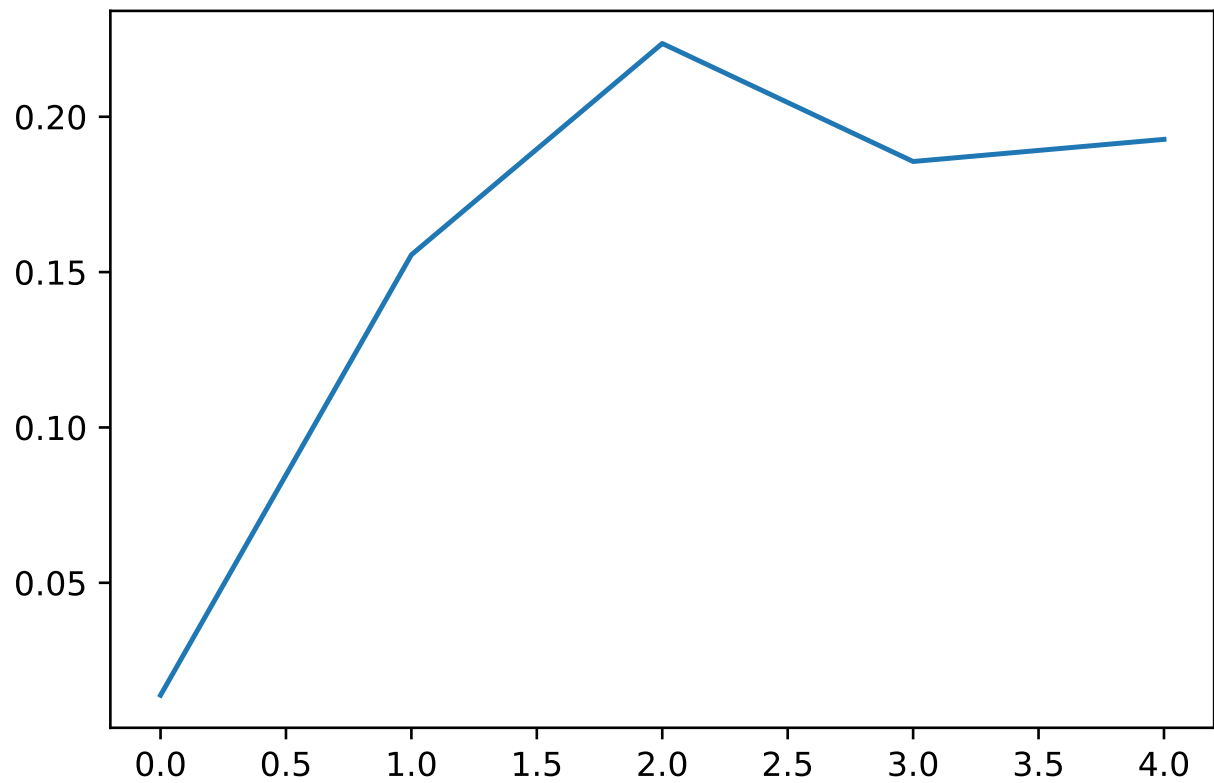
[<matplotlib.lines.Line2D at 0x7f552fd4c040>]
```



2.1.2 Busca Local

```
import matplotlib.pyplot as plt
for arq in arqs:
    local.append(roda('./local', arq)[1])
    with open("out.txt",'r') as f:
        line = f.readlines()
        outsl.append(int(line[0]))
plt.plot(local)

[<matplotlib.lines.Line2D at 0x7f552fc21df0>]
```

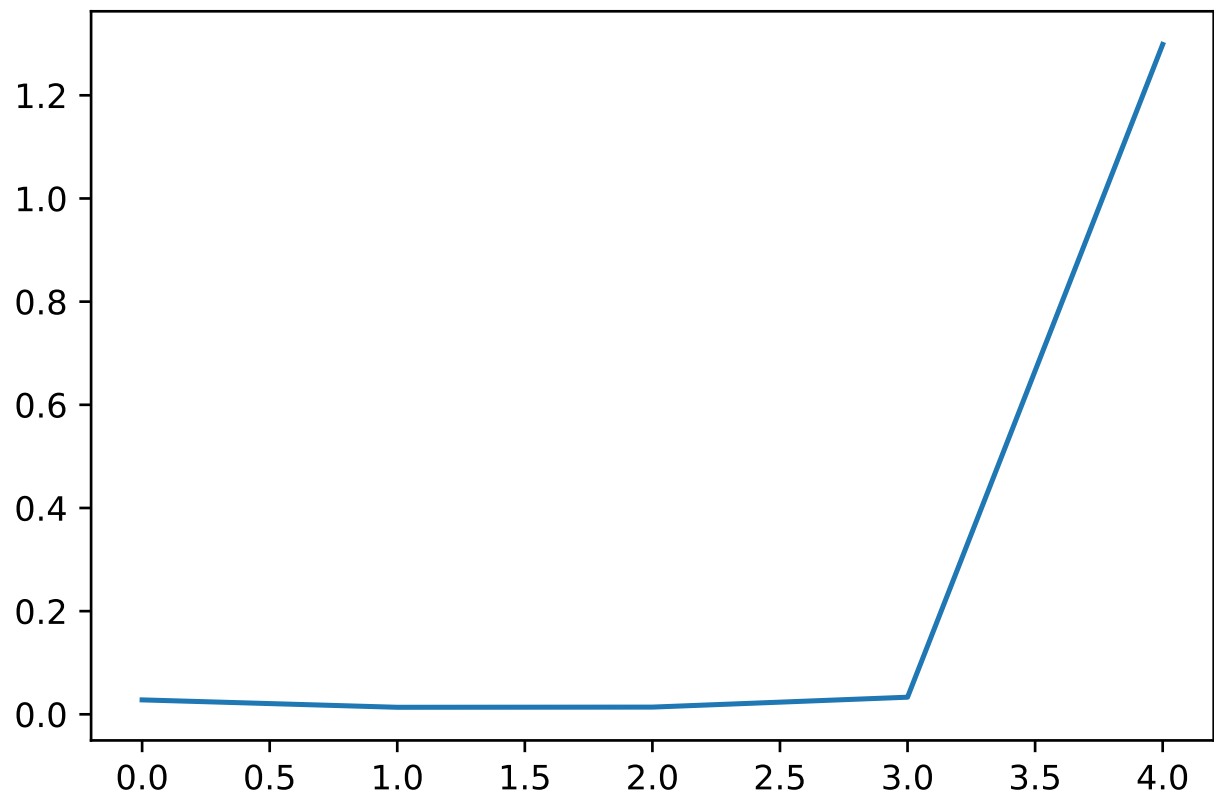


2.1.3 Busca Global

```
import matplotlib.pyplot as plt

for arq in arqs:
    exaus.append(roda('./global', arq)[1])
    with open("out.txt",'r') as f:
        line = f.readlines()
        outsg.append(int(line[0]))
plt.plot(exaus)

[<matplotlib.lines.Line2D at 0x7f552fb99520>]
```



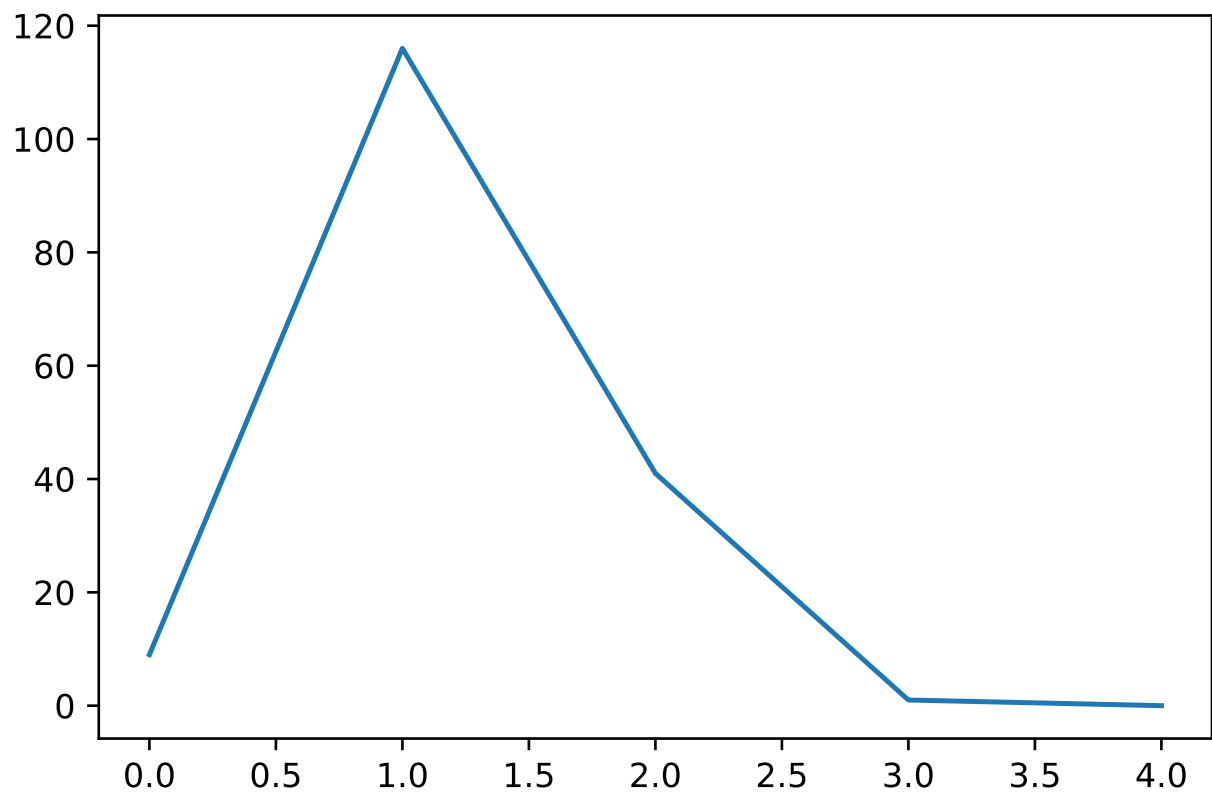
2.2 Qualidade da solução

2.2.1 Heurística

```
import matplotlib.pyplot as plt  
print(outsh)  
plt.plot(outsh)
```

```
[9, 116, 41, 1, 0]
```

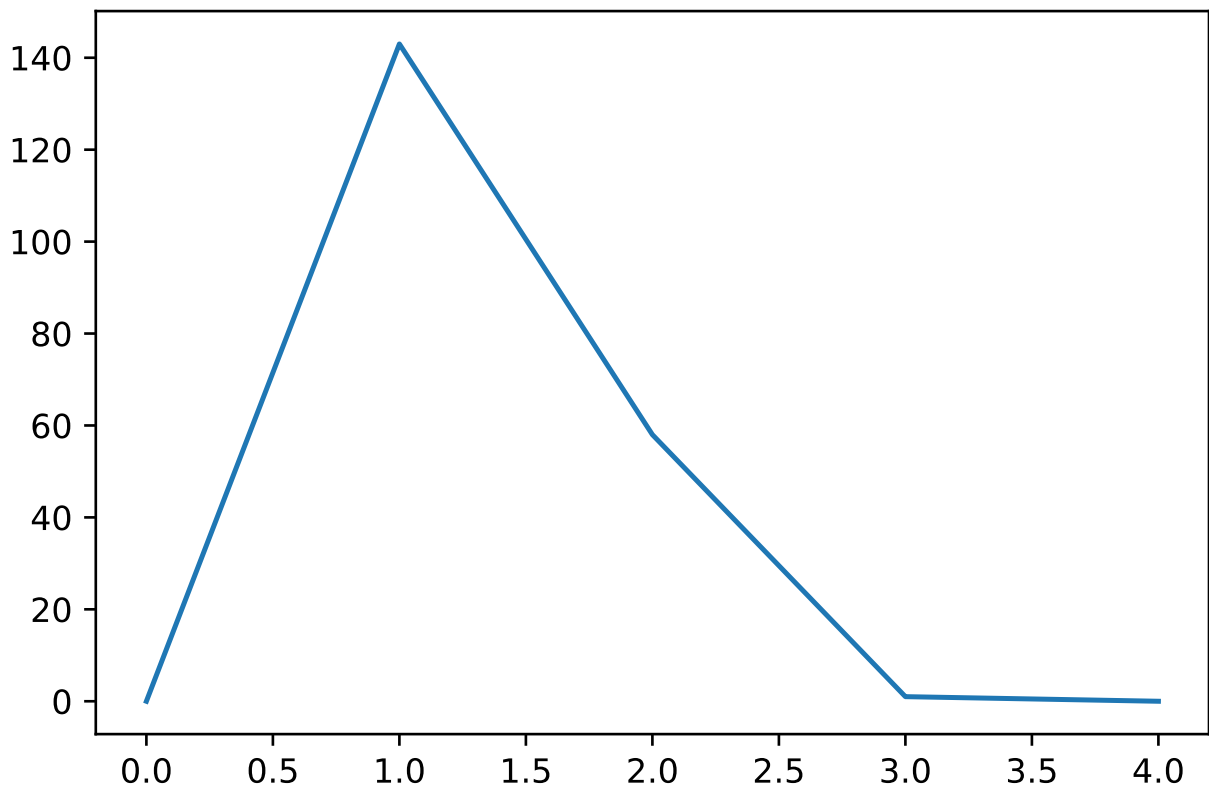
```
[<matplotlib.lines.Line2D at 0x7f552fb0d970>]
```



2.2.2 Busca Local

```
import matplotlib.pyplot as plt  
plt.plot(outsl)
```

```
[<matplotlib.lines.Line2D at 0x7f552fa96280>]
```



2.2.3 Busca Global

```
#import matplotlib.pyplot as plt
#plt.plot(outsg)
```

3 Efeito número de objetos

```
arqs = [f"ino/in{i}.txt" for i in range(5)]
```

```
heuristica=[]
local=[]
exaus=[]
outsh=[]
outsl=[]
outsg=[]
```

3.1 Tempo

3.1.1 Heurística

Primeiramente, análise da Heurística

```
import matplotlib.pyplot as plt

for arq in arqs:
    heuristica.append(roda('./heuristica', arq)[1])
```

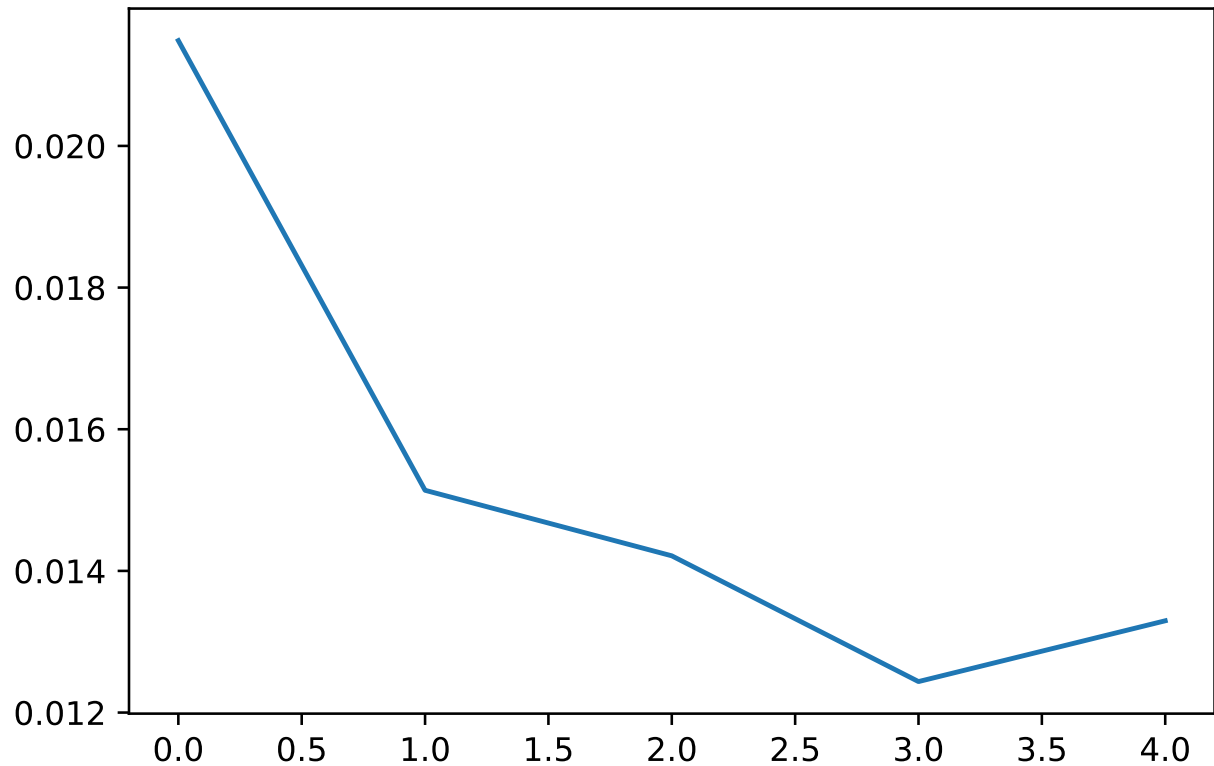
```

with open("out.txt",'r') as f:
    line = f.readlines()
    outsh.append(int(line[0]))

plt.plot(heuristica)

[<matplotlib.lines.Line2D at 0x7f552fa192b0>]

```



3.1.2 Busca Local

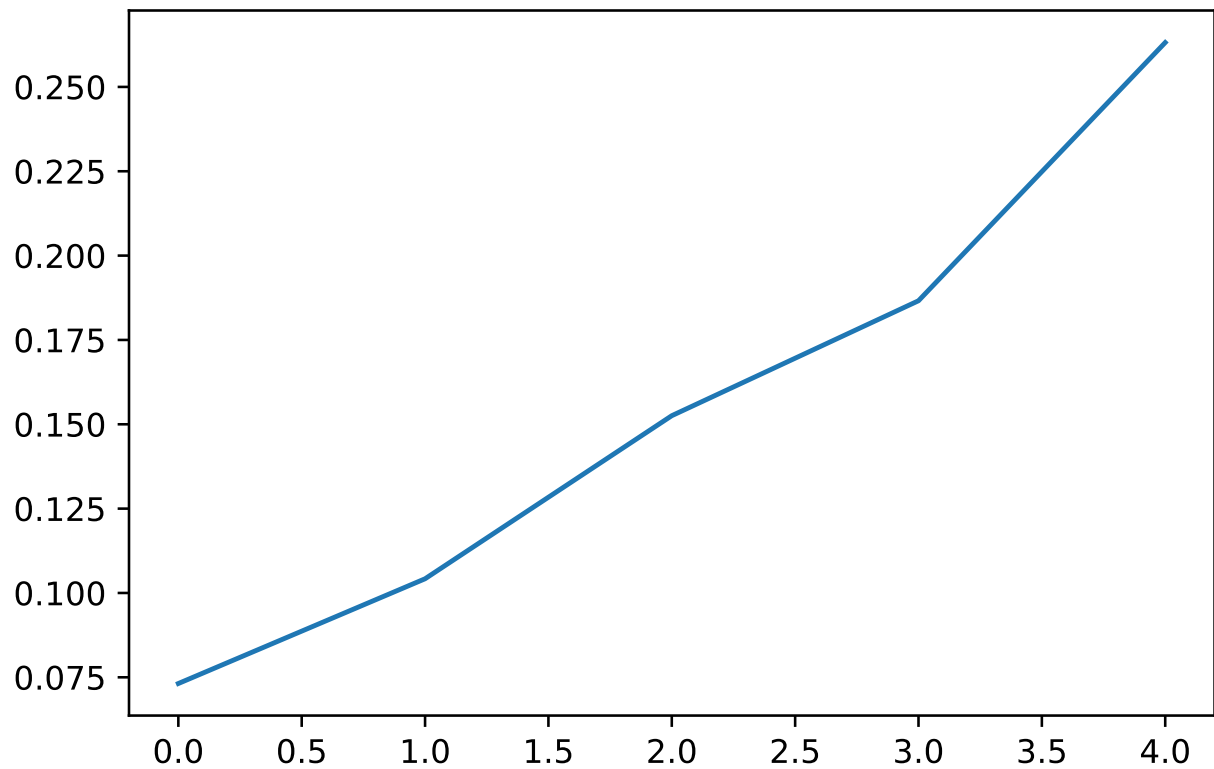
```

import matplotlib.pyplot as plt

for arq in arqs:
    local.append(roda('./local', arq)[1])
    with open("out.txt",'r') as f:
        line = f.readlines()
        outsl.append(int(line[0]))
plt.plot(local)

[<matplotlib.lines.Line2D at 0x7f552fb46a60>]

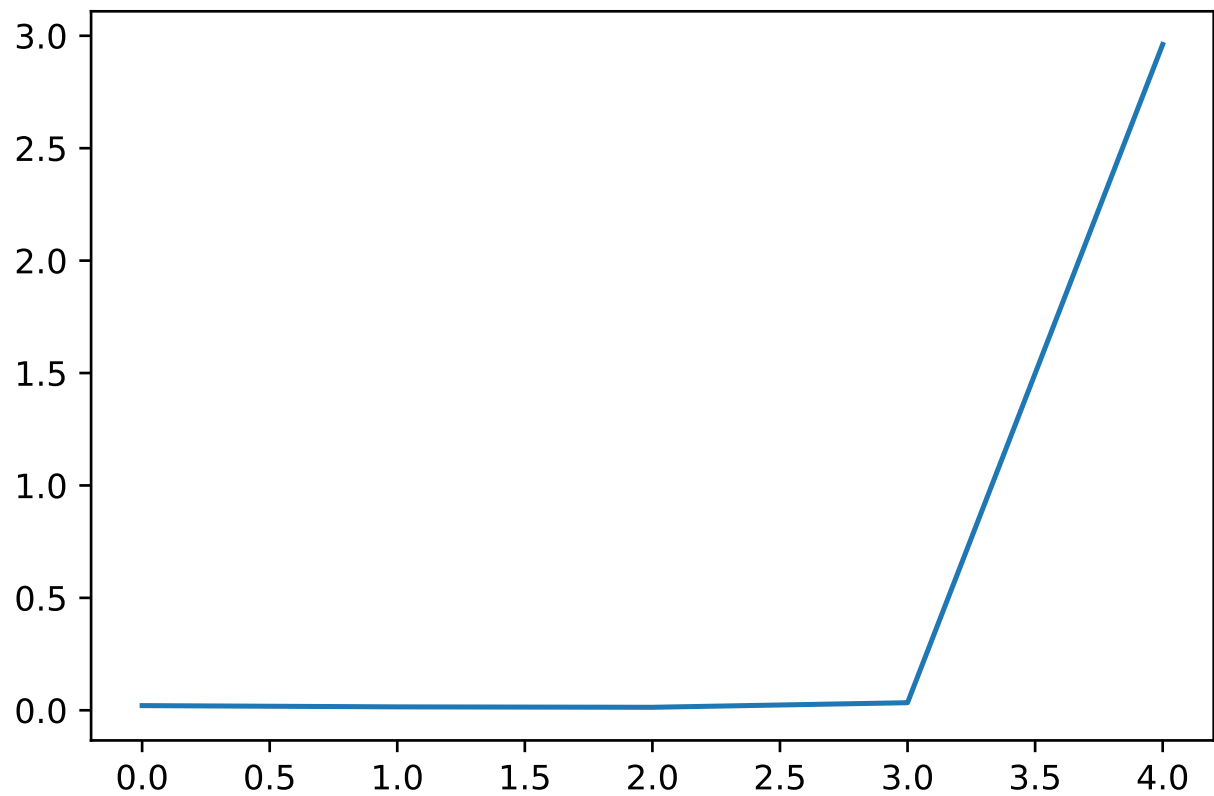
```



3.1.3 Busca Global

```
import matplotlib.pyplot as plt
for arq in arqs:
    exaus.append(roda('./global', arq)[1])
    with open("out.txt",'r') as f:
        line = f.readlines()
        outsg.append(int(line[0]))
plt.plot(exaus)

[<matplotlib.lines.Line2D at 0x7f552fcf1040>]
```

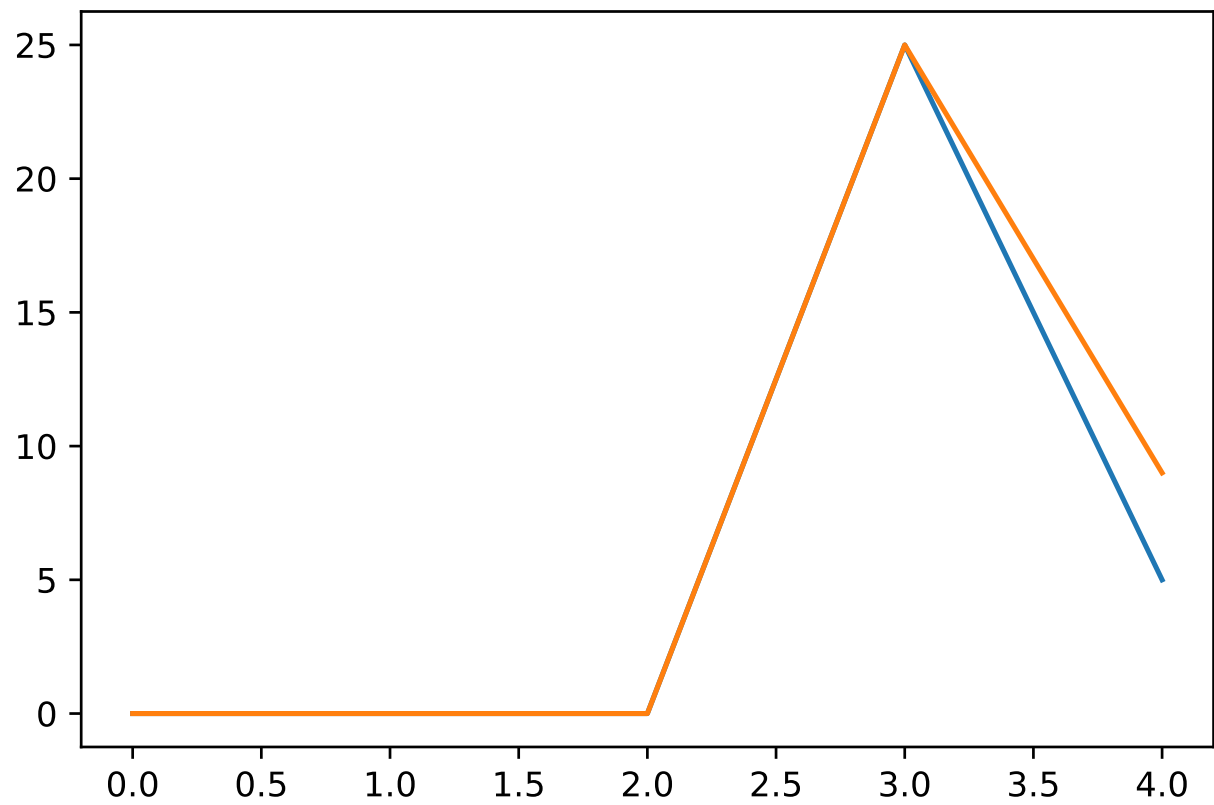



3.2 Qualidade da solução

3.2.1 Comparações

```
import matplotlib.pyplot as plt
plt.plot(outsh)
import matplotlib.pyplot as plt
plt.plot(outsl)
```

```
[<matplotlib.lines.Line2D at 0x7f552fc277c0>]
```



```
#import matplotlib.pyplot as plt  
#plt.plot(outsl)
```

3.2.2 Busca Global

```
#import matplotlib.pyplot as plt  
#plt.plot(outsg)
```

4 Conclusão