Relatório Intermediário

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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 algorítimos implementados no projeto.

```python
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=Tru
        end = time.perf_counter()
    return proc.stdout, end-start

arqs = [f"inp/in{i}.txt" for i in range(100)]
heuristica=[]
local=[]
exaus=[]
outsh=[]
outsl=[]
outsg=[]
```

2.1 Tempo

Nessa seção o tempo será analisado nos diferentes algorítimos
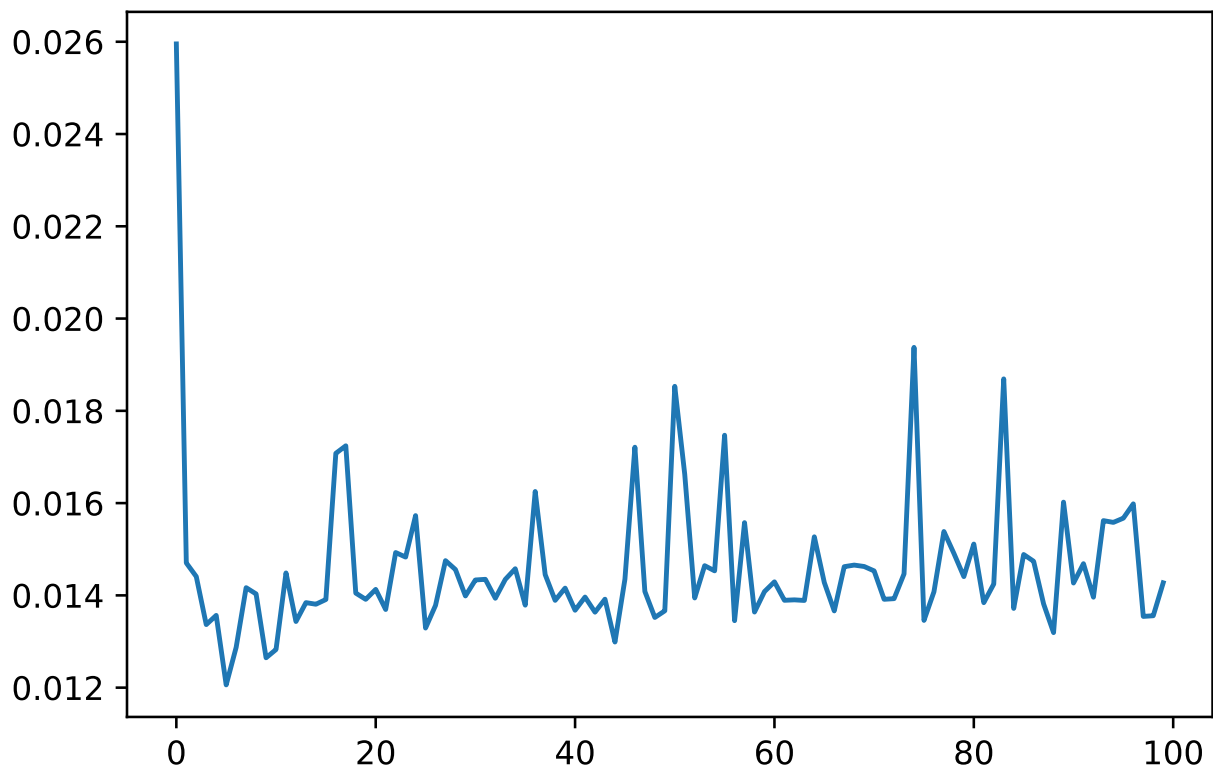
2.1.1 Heurística

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)
```
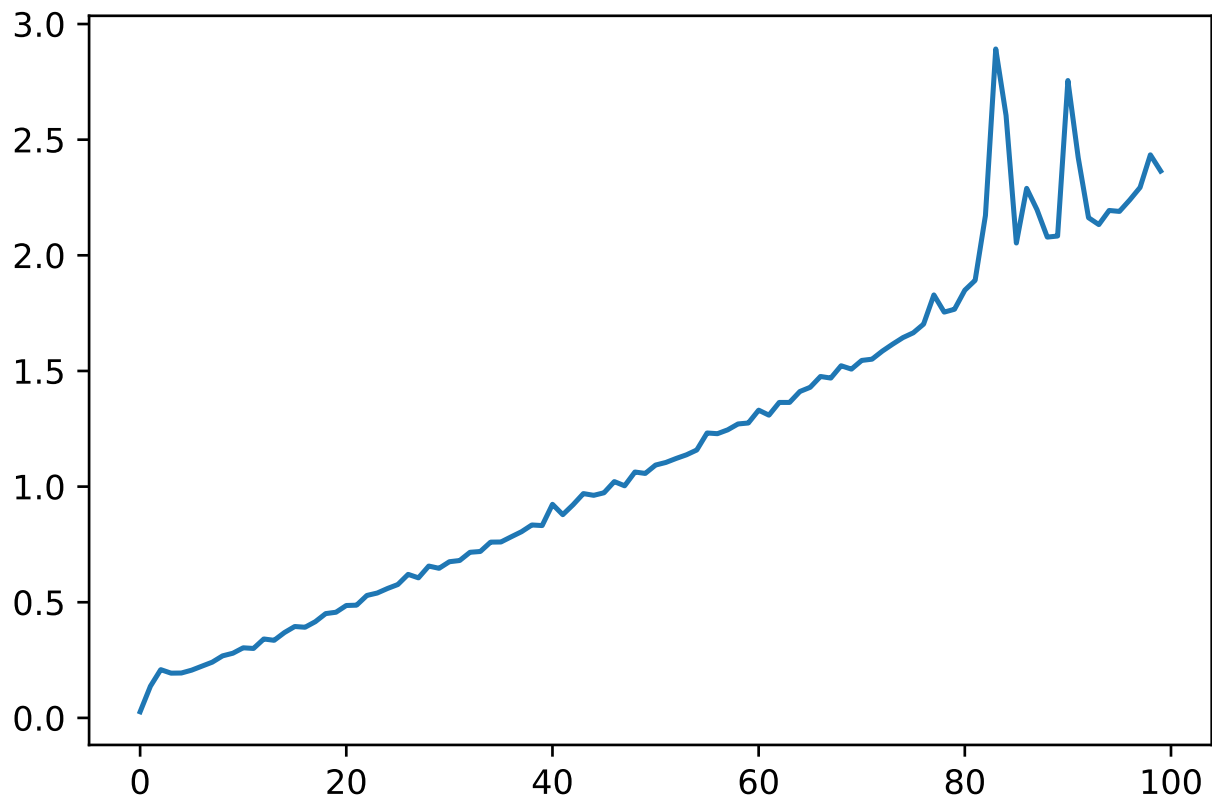
```
[<matplotlib.lines.Line2D at 0x7f19321c6f70>]
```


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 0x7f19320ecb20>]
```

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)
```
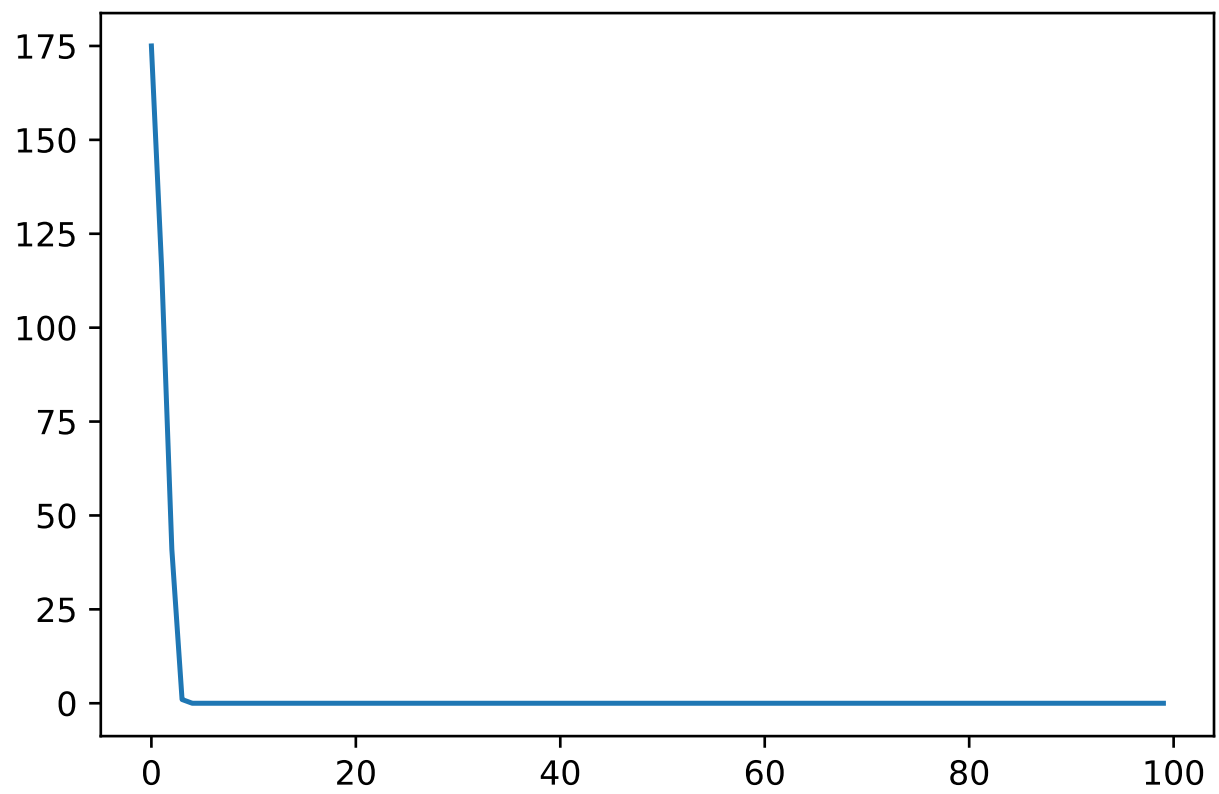
2.2 Qualidade da solução

2.2.1 Heurística

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

```
[175, 116, 41, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0,
0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0,
0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0,
0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0,
0, 0, 0, 0, 0, 0, 0, 0, 0, 0]
```
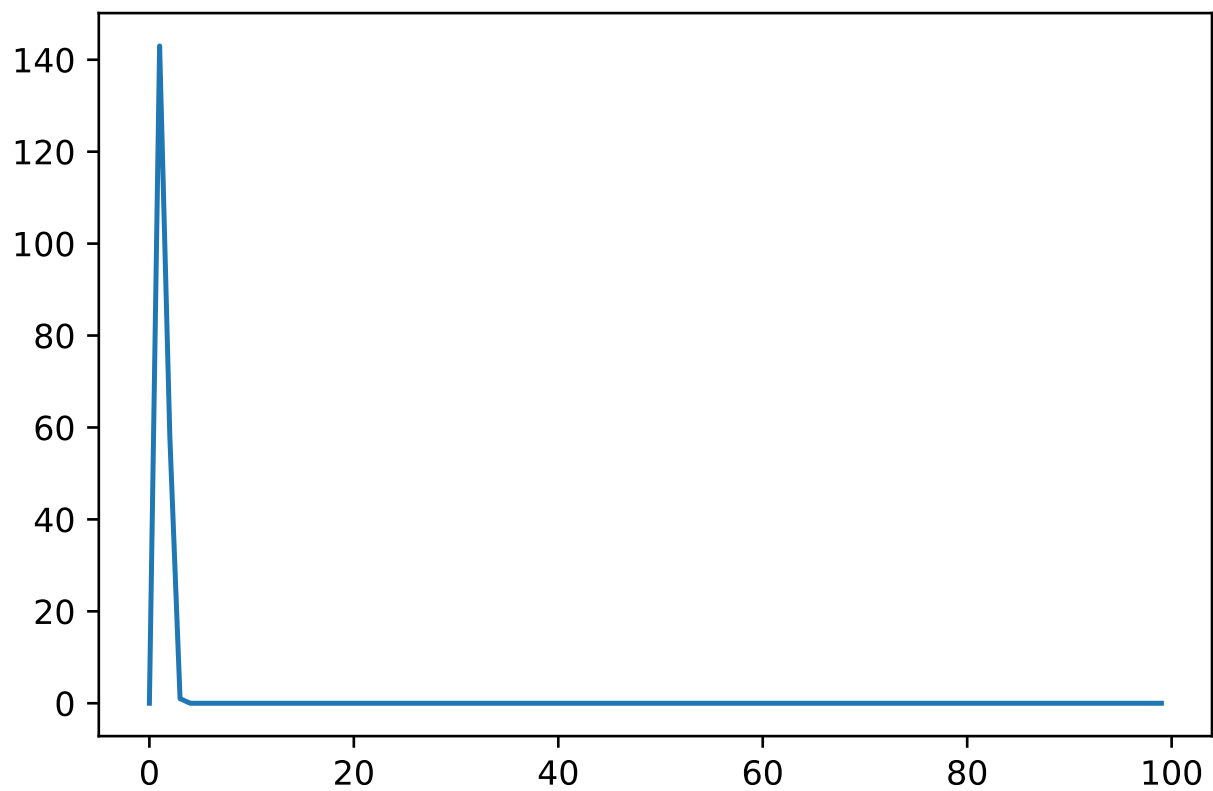
```
[<matplotlib.lines.Line2D at 0x7f19320690a0>]
```

2.2.2 Busca Local
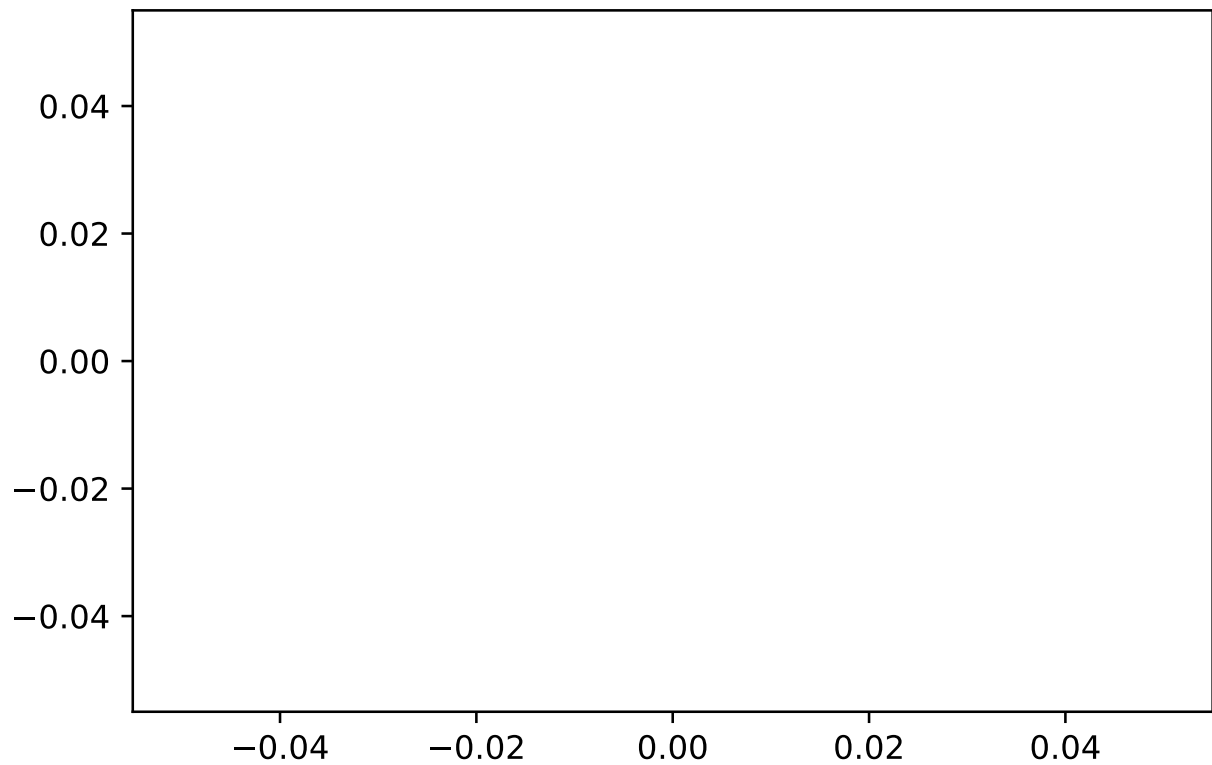
```
import matplotlib.pyplot as plt
plt.plot(outsl)
```

```
[<matplotlib.lines.Line2D at 0x7f1931fd3d30>]
```

2.2.3 Busca Global

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

```
[<matplotlib.lines.Line2D at 0x7f1931f49b20>]
```

3 Efeito número de objetos

```
arqs = [f"ino/in{i}.txt" for i in range(100)]

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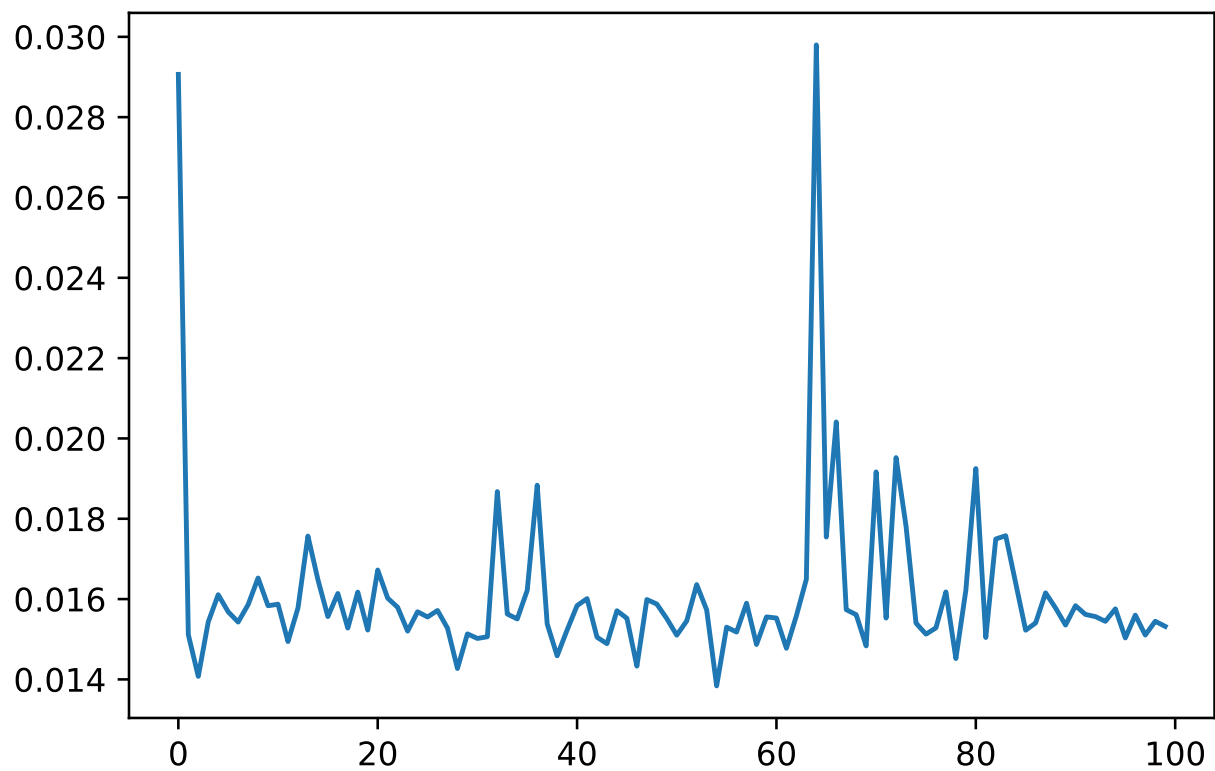
3.1 Tempo

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)
```
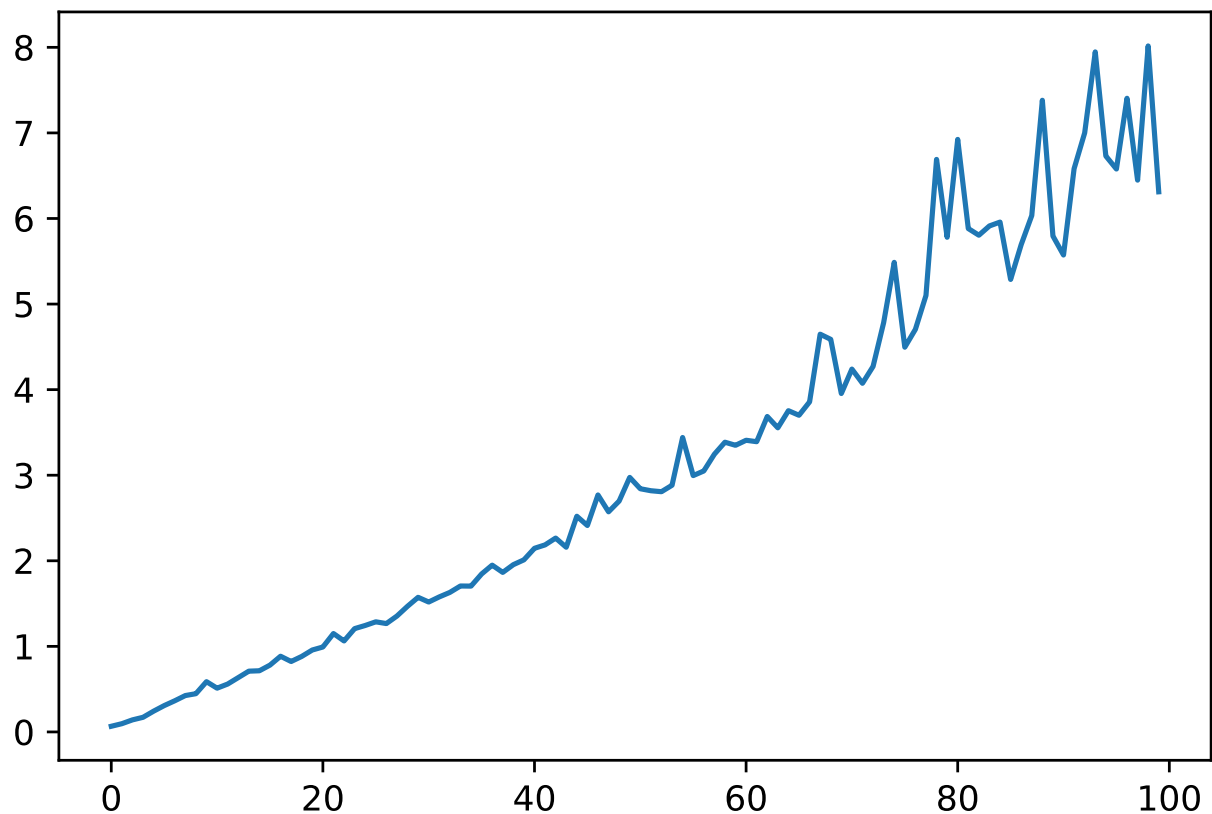
```
[<matplotlib.lines.Line2D at 0x7f1931eb6c70>]
```


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 0x7f193200fac0>]
```
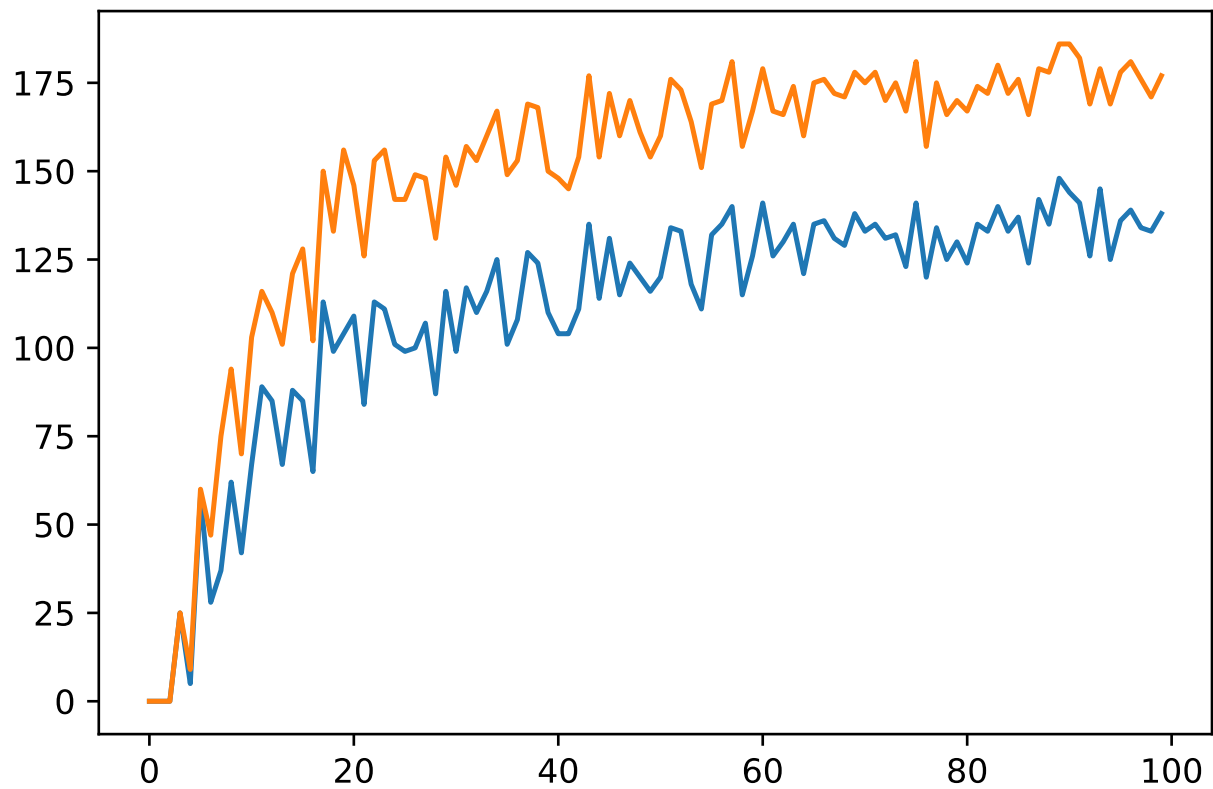
3.1.3 Busca Global

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

3.2 Qualidade da solução

3.2.1 Comparacões

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

```
[<matplotlib.lines.Line2D at 0x7f19321631f0>]
```

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

3.2.2 Busca Global

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

4 Conclusão