

```
In [1]: import function_clique_finder as cf
import function_grouping_homomorphics as gh
import function_adjacency as aj
import function_drawing as dr
import function_bron_kerbosch_clique_finder as bc
import function_matrix_to_edge_connection as mc
import function_ramsey_numbers as ram
import numpy as np
```

```
In [2]: k = 3
l = 2
p = ram.Rams_comp333(k,l)
print(p)
```

```
pair for this graph {graph}
[]
1
[array([0.]), array([0.])]
2
```

```
pair for this graph {graph}
[0, 1]
2
[]
0
```

```
2 is not the Ramsey number.
pair for this graph {graph}
[]
1
[array([0.]), array([0.]), array([0.])]
3
```

```
pair for this graph {graph}
[1, 2]
2
[array([0.])]
1
```

```
3 is not the Ramsey number.
pair for this graph {graph}
[]
1
[array([0.]), array([0.]), array([0.]), array([0.])]
4
```

```
pair for this graph {graph}
[2, 3]
2
[array([0.]), array([0.])]
2
```

```
pair for this graph {graph}
[1, 3]
2
[array([0.]), array([0.])]
2
```

```
pair for this graph {graph}
[1, 2, 3]
3
[array([0.])]
1
```

```
pair for this graph {graph}
[0, 3]
2
[array([0.]), array([0.])]
2
```

```
pair for this graph {graph}
[0, 3]
2
[array([0.]), array([0.])]
2
```

2

```
pair for this graph {graph}
[0, 3]
2
[array([0.]), array([0.])]
2
```

```
pair for this graph {graph}
[1, 2, 3]
3
[array([0.])]
1
```

```
pair for this graph {graph}
[0, 2]
2
[array([0.]), array([0.])]
2
```

```
pair for this graph {graph}
[0, 2, 3]
3
[array([0.])]
1
```

```
pair for this graph {graph}
[0, 1, 2, 3]
4
[]
0
```

The Ramsey number is 4.

4

In [ ]: