Untitled10

December 8, 2022

```python
[1]: automat = {"A": {"a": "B", "b": "C"},
               "B": {"a": "A", "b": "D"},
               "C": {"a": "B", "b": "A"},
               "D": {"a": "C", "b": "A"}}
```

```python
[2]: automat["A"]["b"]
```

```python
[2]: 'C'
```

```python
[6]: uroven = [("A", "B", "C", "D")]
uzly = set()
cesty = dict()
cesty[("A", "B", "C", "D")] = ""
while True:
    nova_uroven = []
    if (len(uroven) == 0):
        break;
    for uzol in uroven:
        if uzol in uzly:
            continue
        else:
            uzly.add(uzol)

        for e in ("a", "b"):
            vystupy = dict()
            for v in uzol:
                if len(uzol) != 1:
                    vystupy[automat[v][e]] = ""
            novy_uzol = tuple(sorted(vystupy.keys()))

            if novy_uzol not in uzly and len(novy_uzol) != 0:
                nova_uroven.append(novy_uzol)
                if novy_uzol not in cesty:
                    cesty[novy_uzol] = cesty[uzol] + e
    uroven = nova_uroven
```

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[7]: print(cesty)
```

```
{('A', 'B', 'C', 'D'): '', ('A', 'B', 'C'): 'a', ('A', 'C', 'D'): 'b', ('A',
'B'): 'aa', ('B', 'C'): 'ba', ('A', 'C'): 'bb', ('C', 'D'): 'aab', ('A', 'D'):
'bab', ('B',): 'bba', ('A',): 'aabb'}
```

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[ ]:
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