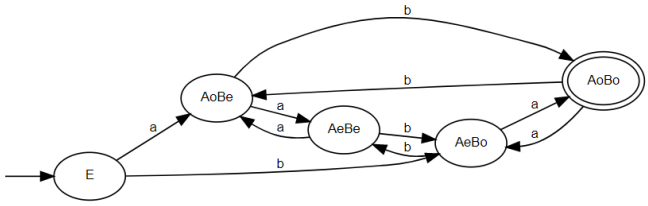
In [10]:
```
from automata.notebook import *
check_answer = lambda dfa: check_dfa_language_from_words(dfa, 'aababaaba abababbb baaabbaa bbabbb abaaabba abaa bbab abaaaa aabaaa
```

Enter a DFA for the language $\{ w \in \{a,b\}^* \mid |w| \bmod 2 = 0 \wedge \#_a(w) \bmod 2 = 1 \}$, i.e. words of a's and b's of even length and with an odd number of a's.

In [14]:
```
dfa = '''
input_symbols a b
initial E
final AoBo
E AoBe a
E AeBo b
AoBe AeBe a
AoBe AoBo b
AoBo AoBe b
AoBo AeBo a
AeBe AeBo b
AeBe AoBe a
AeBo AeBe b
AeBo AoBo a
'''
```

In [15]:
```
show(dfa)
```

Out[15]:



In [16]:
```
check_answer(dfa)
```

OK

If the DFA above is not OK, inspect its execution for a selected word, e.g. $aabb$.

In [17]:
```
simulate_dfa(dfa,'aabb')
```

State	Word
E	aabb
AoBe	aab
AeBe	aa
AeBo	a
AeBe	

In [ ]: