In [1]:
```
import msprime
import tskit
from IPython.display import SVG
```

In [2]:
```
msprime.__version__
```

Out[2]: '0.7.0'

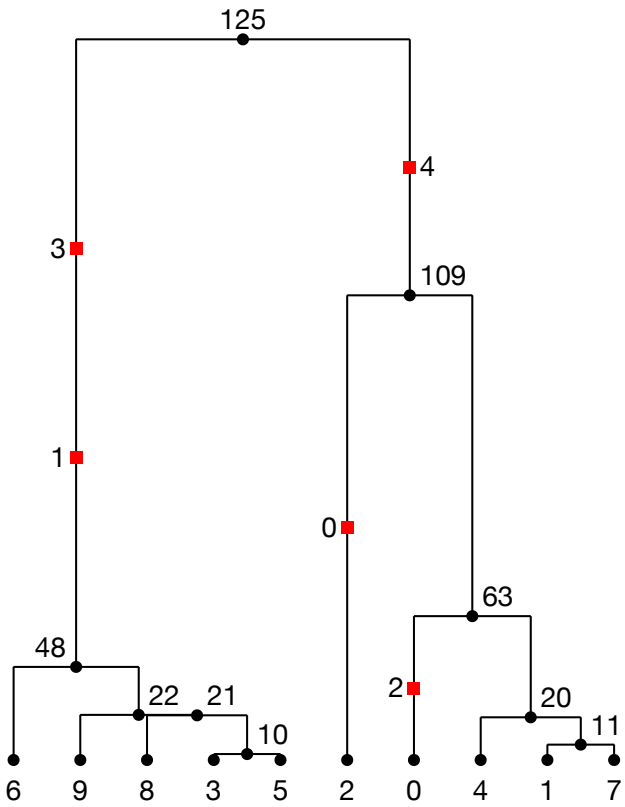
In [3]:
```
tskit.__version__
```

Out[3]: '0.1.4'

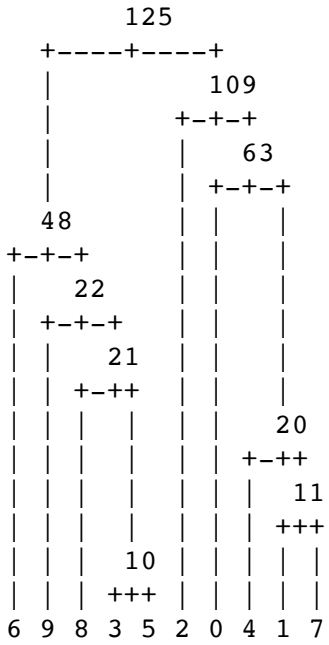
In [4]:
```
tree_sequence = msprime.simulate(sample_size=10, Ne=1000, length=1e6, re
combination_rate=2e-8, mutation_rate=1e-7, random_seed=2)
tree = tree_sequence.first()
```

In [5]:
```
SVG(tree.draw(width=400, height=400))
```

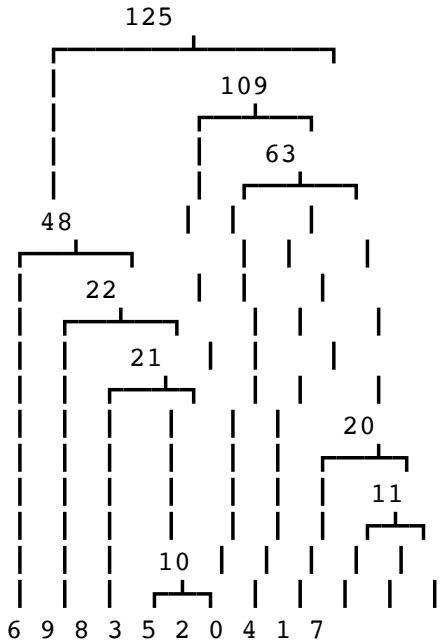
Out[5]:



In [6]:
```
print(tree.draw(format="ascii"))
```



In [7]:
```
print(tree.draw(format="unicode"))
```



In [8]:
```
# taken from https://stackoverflow.com/a/16118005/
# A: East Asian Ambiguous
# Na: East Asian Narrow
import unicodedata
my_string = "│ ┌──┴┐ 120 🐴中"
for c in my_string:
    print(c, unicodedata.east_asian_width(c))
```

```
│ A
┌ A
─ A
┴ A
┐ A
1 Na
2 Na
0 Na
  Na
🐴 N
中 W
```

In [9]:
```
print("🐴" * 10)
print("中" * 10)
print("┴" * 10)
print("0" * 20)
print("0" * 5 + " " * 10 + "0" * 5)
print("0" * 10)
```

```
🐴🐴🐴🐴🐴🐴🐴🐴🐴🐴
中中中中中中中中中中
┴┴┴┴┴┴┴┴┴┴
00000000000000000000
00000          00000
0000000000
```

On my browser, the three rows of unicode letters line up

Solution 1: replace all characters with full-width versions

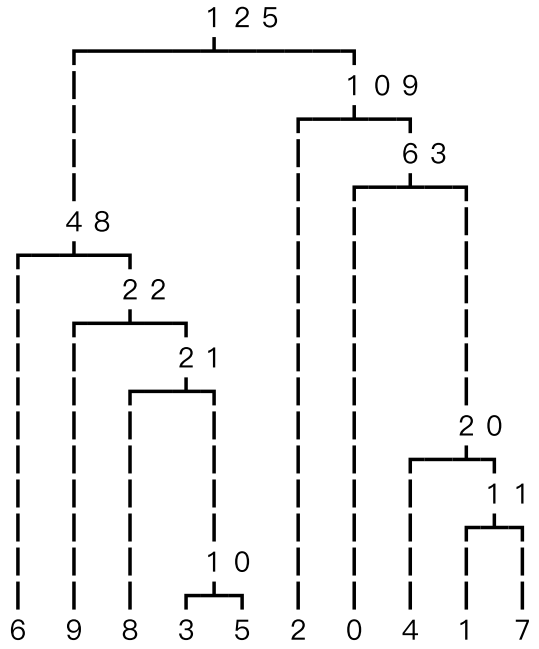
Thanks to https://stackoverflow.com/a/4632373/ (https://stackoverflow.com/a/4632373/)

In [10]:
```
# full width versions (SPACE is non-contiguous with ! through ~)
SPACE = '\N{IDEOGRAPHIC SPACE}'
EXCLA = '\N{FULLWIDTH EXCLAMATION MARK}'
TILDE = '\N{FULLWIDTH TILDE}'

# strings of ASCII and full-width characters (same order)
west = ''.join(chr(i) for i in range(ord(' '),ord('~')))
east = SPACE + ''.join(chr(i) for i in range(ord(EXCLA),ord(TILDE)))

# build the translation table
full = str.maketrans(west,east)
```

In [11]:
```
print(tree.draw(format="unicode").translate(full))
```



Note: it does not work if I just try to insert space characters

In [12]:
```
my_string = tree.draw(format="unicode")
my_string = my_string.replace(" ", "  ")
for i in range(10):
    my_string = my_string.replace(str(i), ' ' + str(i))
print(my_string)
```