

počet vrcholov grafov

regularita grafov

```
terezia@terezia-ntb:~/genreg/grafy$ time regularSerial 20 3
3-regularne grafy na 20 vrcholoch do suboru maxMinReg3-20.txt
spracovanie bolo ukoncene po 38 sekundach
trvanie celego spracovania je 39 sekund
```

```
real    0m38,206s
user    0m46,093s
sys     0m0,227s
```

```
terezia@terezia-ntb:~/genreg/grafy$
```

```
#!/bin/bash
SECONDS=0
```

```
n=$1;
k=$2;
```

```
GenReg $n $k -e -a stdout | kostryRegularne $n $k;
```

```
subor=${n}_${k}_3.erg;
cat $subor >> maxMinReg${k}-${n}.txt;
rm $subor;
```

```
echo "trvanie celego spracovania je $SECONDS sekund" >> maxMinReg${k}-${n}.txt
echo "trvanie celego spracovania je $SECONDS sekund";
exit 0;
```

```
terezia@terezia-ntb:~/genreg/grafy$ time regularParalel 4 20 3
3-regularne grafy na 20 vrcholoch do suboru out-graf-1
3-regularne grafy na 20 vrcholoch do suboru out-graf-3
3-regularne grafy na 20 vrcholoch do suboru out-graf-2
3-regularne grafy na 20 vrcholoch do suboru out-graf-4
spracovanie bolo ukoncene po 16 sekundach
spracovanie bolo ukoncene po 21 sekundach
spracovanie bolo ukoncene po 21 sekundach
spracovanie bolo ukoncene po 22 sekundach
zberanie vysledkov pre 4 suborov
trvanie celego spracovania je 22 sekund
```

```
real    0m22,029s
user    1m21,869s
sys     0m0,497s
```

```
terezia@terezia-ntb:~/genreg/grafy$
```

počet častí, do ktorých je rozdelené generovanie

```
#!/bin/bash
SECONDS=0
```

```
pocetCasti=$1;
n=$2;
k=$3;
```

```
for i in $(eval echo {1..${pocetCasti}}); do
| GenReg $n $k -e -a stdout -m $i $pocetCasti | kostryRegularne out-graf-$i $n $k &
done
```

```
wait;
zberRegularne out-graf $pocetCasti $n $k;
```

```
eval rm out-graf-{1..${pocetCasti}};
```

```
for i in $(eval echo {1..${pocetCasti}}); do
  subor=${n}_${k}_3#${i}.erg
  cat $subor >> maxMinReg${k}-${n}-${pocetCasti}.txt
  rm $subor
done
```

```
echo "trvanie celego spracovania je $SECONDS sekund" >> maxMinReg${k}-${n}-${pocetCasti}.txt
echo "trvanie celego spracovania je $SECONDS sekund";
exit 0;
```

počet grafov s najnižším počtom kostier
počet kostier v grafe

```
terezia@terezia-ntb:~/genreg/grafy$ cat maxMinReg3-20-4.txt
```

```
min 1 110592  
[(0, 1), (0, 2), (0, 3), (1, 2), (1, 3), (2, 4), (3, 4), (4, 5), (5, 6), (5, 7), (6, 7), (6, 8), (7, 8), (8, 9), (9, 10), (9, 11), (10, 12), (10, 13), (11, 14), (11, 15), (12, 16), (12, 17), (13, 16), (13, 17), (14, 18), (14, 19), (15, 18), (15, 19), (16, 17), (18, 19)]  
max 1 6422000  
[(0, 1), (0, 2), (0, 3), (1, 4), (1, 5), (2, 6), (2, 7), (3, 8), (3, 9), (4, 10), (4, 11), (5, 12), (5, 13), (6, 10), (6, 14), (7, 12), (7, 15), (8, 11), (8, 16), (9, 17), (9, 18), (10, 17), (11, 15), (12, 16), (13, 14), (13, 18), (14, 16), (15, 18), (16, 19), (17, 19)]
```

```
GENREG - Generator fuer regulaere Graphen  
20 Knoten, Grad 3, Taillenweite mind. 3  
Erzeugung Teil 1 von 4 gestartet...  
104906 Graphen erzeugt.  
Laufzeit:2.7s 38427.1 Repr./s
```

hrany grafu/grafov s daným počtom kostier

```
GENREG - Generator fuer regulaere Graphen  
20 Knoten, Grad 3, Taillenweite mind. 3  
Erzeugung Teil 2 von 4 gestartet...  
129198 Graphen erzeugt.  
Laufzeit:3.3s 39150.9 Repr./s
```

```
GENREG - Generator fuer regulaere Graphen  
20 Knoten, Grad 3, Taillenweite mind. 3  
Erzeugung Teil 3 von 4 gestartet...  
140603 Graphen erzeugt.  
Laufzeit:3.5s 40287.4 Repr./s
```

```
GENREG - Generator fuer regulaere Graphen  
20 Knoten, Grad 3, Taillenweite mind. 3  
Erzeugung Teil 4 von 4 gestartet...  
135782 Graphen erzeugt.  
Laufzeit:3.4s 39586.6 Repr./s
```

trvanie celeho spracovania je 22 sekund

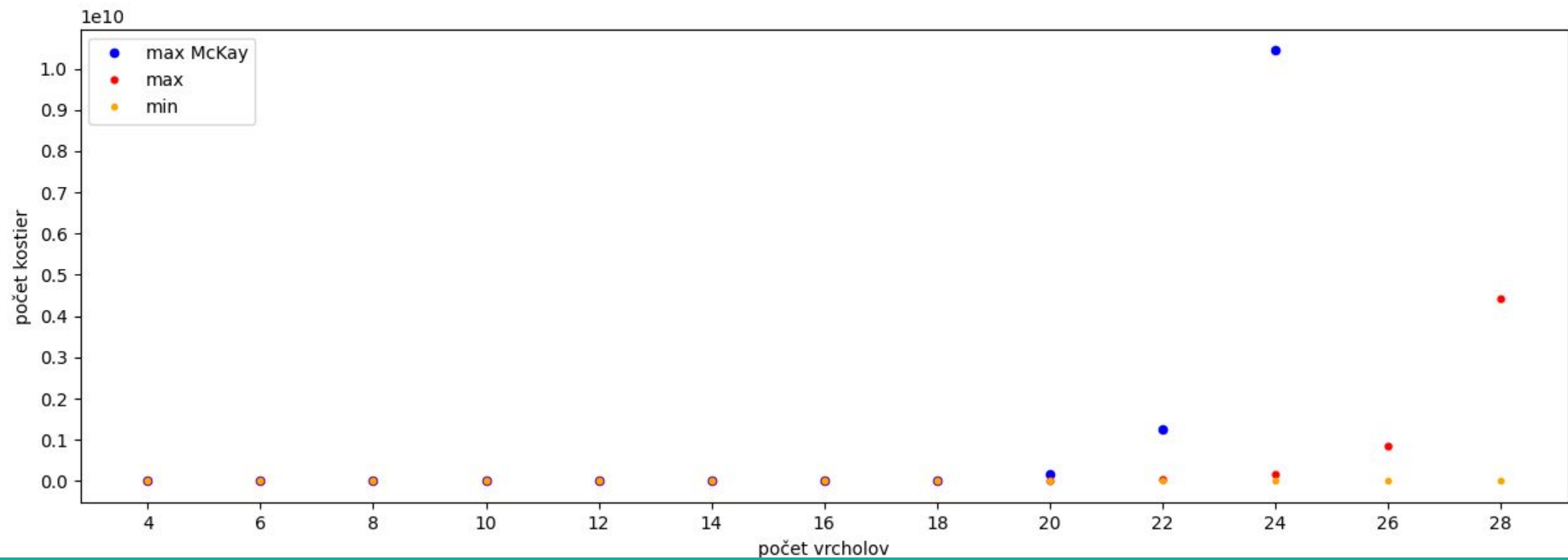
```
terezia@terezia-ntb:~/genreg/grafy$ cat maxMinReg3-20.txt
```

```
min 1 110592  
[(0, 1), (0, 2), (0, 3), (1, 2), (1, 3), (2, 4), (3, 4), (4, 5), (5, 6), (5, 7), (6, 7), (6, 8), (7, 8), (8, 9), (9, 10), (9, 11), (10, 12), (10, 13), (11, 14), (11, 15), (12, 16), (12, 17), (13, 16), (13, 17), (14, 18), (14, 19), (15, 18), (15, 19), (16, 17), (18, 19)]  
max 1 6422000  
[(0, 1), (0, 2), (0, 3), (1, 4), (1, 5), (2, 6), (2, 7), (3, 8), (3, 9), (4, 10), (4, 11), (5, 12), (5, 13), (6, 10), (6, 14), (7, 12), (7, 15), (8, 11), (8, 16), (9, 17), (9, 18), (10, 17), (11, 15), (12, 16), (13, 14), (13, 18), (14, 16), (15, 18), (16, 19), (17, 19)]
```

```
GENREG - Generator fuer regulaere Graphen  
20 Knoten, Grad 3, Taillenweite mind. 3  
Erzeugung gestartet...  
510489 Graphen erzeugt.  
Laufzeit:8.1s 63414.8 Repr./s
```

trvanie celeho spracovania je 37 sekund

```
terezia@terezia-ntb:~/genreg/grafy$
```



```
4
pocet vrcholov grafov: 16
edge list prveho grafu: [(0, 1), (0, 2), (0, 3), (1, 2), (1, 3), (2, 4), (3, 4), (4, 5), (5, 6), (5, 7), (6, 8), (6, 9), (7, 10), (7, 11), (8, 12), (8, 13), (9, 12), (9, 13), (10, 14), (10, 15), (11, 14),
(11, 15), (12, 13), (14, 15)]
edge list druheho grafu: [(0, 1), (0, 2), (0, 3), (1, 4), (1, 5), (2, 6), (2, 7), (3, 8), (3, 9), (4, 10), (4, 11), (5, 12), (5, 13), (6, 10), (6, 12), (7, 11), (7, 14), (8, 11), (8, 13), (9, 12), (9, 14),
(10, 15), (13, 15), (14, 15)]
prvy graf:
bolo vygenerovanych 13824 kostier, 56 tried
druhy graf:
bolo vygenerovanych 248832 kostier, 707 tried
spolocne kostry:
[(0, 1), (0, 2), (0, 3), (2, 4), (4, 5), (5, 6), (5, 7), (6, 8), (7, 10), (8, 12), (8, 13), (9, 12), (10, 14), (11, 14), (11, 15)]
[(0, 1), (0, 2), (0, 3), (2, 4), (4, 5), (5, 6), (5, 7), (6, 8), (7, 10), (8, 12), (9, 12), (9, 13), (10, 14), (11, 14), (11, 15)]
[(0, 1), (0, 2), (1, 3), (2, 4), (4, 5), (5, 6), (5, 7), (6, 8), (6, 9), (7, 10), (7, 11), (8, 12), (8, 13), (10, 14), (14, 15)]
[(0, 1), (0, 2), (1, 3), (2, 4), (4, 5), (5, 6), (5, 7), (6, 8), (6, 9), (7, 10), (7, 11), (8, 12), (9, 13), (10, 14), (14, 15)]
[(0, 1), (0, 2), (1, 3), (2, 4), (4, 5), (5, 6), (5, 7), (6, 8), (6, 9), (7, 10), (8, 12), (10, 14), (10, 15), (11, 14), (12, 13)]
[(0, 1), (0, 2), (1, 3), (2, 4), (4, 5), (5, 6), (5, 7), (6, 8), (6, 9), (7, 10), (8, 12), (10, 14), (11, 14), (11, 15), (12, 13)]
[(0, 1), (0, 2), (2, 4), (3, 4), (4, 5), (5, 6), (5, 7), (6, 8), (6, 9), (7, 10), (7, 11), (8, 12), (8, 13), (10, 14), (11, 15)]
[(0, 1), (0, 2), (2, 4), (3, 4), (4, 5), (5, 6), (5, 7), (6, 8), (6, 9), (7, 10), (7, 11), (8, 12), (9, 13), (10, 14), (11, 15)]
[(0, 1), (0, 2), (2, 4), (3, 4), (4, 5), (5, 6), (5, 7), (6, 8), (6, 9), (7, 10), (8, 12), (9, 13), (10, 14), (10, 15), (11, 14)]
9 spolocnych kostier
```