

Παρακάτω παρατηρούμε τα εξής αποτελέσματα από τους αλγορίθμους:

Images with edge selection 1:

| Name File | Algorithm (Sorting) | Edge Selection | Points | Area(ourArea) | Ratio | Time(ms) |
|---------------------------------|---------------------|----------------|--------|-----------------------------|-----------|----------|
| euro-night-0000100.i nstance | Incremental (1a) | 1 | 100 | 44951474(4.495 15e+07) | -0.59552 | 108 |
| euro-night-0000100.i nstance | convex hull | 1 | 100 | 40198266(4.019 83e+07) | 0.532549 | 3020 |
| euro-night-0001000.i nstance | Incremental (1a) | 1 | 1000 | -38113920(3.81 541e+07) | -0.441957 | 9796 |
| euro-night-0001000.i nstance | convex hull | 1 | 1000 | αργεί πάρα πολύ | | |
| paris-0001000.instan ce | Incremental (1a) | 1 | 1000 | -143840204(1.4 384e+08) | -0.47936 | 10844 |
| paris-0001000.instan ce | Incremental (1b) | 1 | 1000 | -145610672(1.4 6091e+08) | -0.48526 | 13123 |
| paris-0001000.instan ce | Incremental (2a) | 1 | 1000 | -148813664(1.4 8814e+08) | -0.495935 | 14237 |
| paris-0001000.instan ce | Incremental (2b) | 1 | 1000 | -139788122(1.3 9788e+08) | -0.465856 | 13931 |
| paris-0001000.instan ce | convex hull | 1 | 1000 | αργεί πάρα πολύ | | |

Image edge selection 2:

| Name File | Algorithm (Sorting) | Edge Selection | Points | Area | Ratio | Time(ms) |
|---------------------------------|---------------------|----------------|--------|--------------------------------|----------|----------|
| euro-night-0000100.i nstance | Incremental (1a) | 2 | 100 | -16345194(1.63452e+0 7) | 0.216542 | 117 |
| euro-night-0000100.i nstance | convex hull | 2 | 100 | 23110406(2 .31104e+07) | 0.306168 | 4270 |

| | | | | | | |
|-----------------------------|------------------|---|------|-------------------------|-----------|---------|
| euro-night-0001000.instance | Incremental (1a) | 2 | 1000 | -246235662(2.46236e+08) | -0.173173 | 2350053 |
| euro-night-0001000.instance | convex hull | 2 | 1000 | Αργεί πάρα πολύ | | |
| paris-0001000.instance | Incremental (1a) | 2 | 1000 | -64786486(6.47865e+07) | -0.215907 | 15358 |
| paris-0001000.instance | Incremental (1b) | 2 | 1000 | -62170880(6.21709e+07) | -0.20719 | 16636 |
| paris-0001000.instance | Incremental (2a) | 2 | 1000 | -69479836(6.94798e+07) | -0.231548 | 18578 |
| paris-0001000.instance | Incremental (2b) | 2 | 1000 | -78217932(7.82179e+07) | -0.260668 | 17354 |
| paris-0001000.instance | convex hull | 2 | 1000 | Αργεί πάρα πολύ | | |

Image edge selection 3:

| Name File | Algorithm (Sorting) | Edge Selection | Points | Area | Ratio | Time(ms) |
|-----------------------------|---------------------|----------------|--------|-------------------------|-----------|----------|
| euro-night-0000100.instance | Incremental (1a) | 3 | 100 | -57276158(5.72762e+07) | -0.758798 | 88 |
| euro-night-0000100.instance | convex hull | 3 | 100 | 66991396(6.69914e+07) | 0.887506 | 1946 |
| euro-night-0001000.instance | Incremental (1a) | 3 | 1000 | -60146044(6.01863e+07) | -0.697435 | 11611 |
| euro-night-0001000.instance | convex hull | 3 | 1000 | αργεί πάρα πολύ | | |
| paris-0001000.instance | Incremental (1a) | 3 | 1000 | -206966284(2.06966e+08) | -0.689733 | 9803 |
| paris-0001000.instance | Incremental (1b) | 3 | 1000 | 210823562(2.11304e+08) | -0.702588 | 11023 |

| | | | | | | |
|------------------------|------------------|---|------|-------------------------|-----------|-------|
| ce | | | | | | |
| paris-0001000.instance | Incremental (2a) | 3 | 1000 | -212756788(2.17566e+08) | -0.709031 | 13253 |
| paris-0001000.instance | Incremental (2b) | 3 | 1000 | -208080876(2.08081e+08) | -0.693448 | 12449 |
| paris-0001000.instance | convex hull | 3 | 1000 | αργεί πάρα πολύ | | |

Uniform edge selection1:

| Name File | Algorithm (Sorting) | Edge Selection | Points | Area | Ratio | Time(ms) |
|----------------------------|---------------------|----------------|--------|--------------------------|-----------|----------|
| uniform-000100-1.instance | Incremental (1a) | 1 | 100 | -14218890(1.42189e+07) | -0.42682 | 104 |
| uniform-000100-1.instance | convex hull | 1 | 100 | 16991116(1.69911e+07) | 0.510036 | 3969 |
| uniform-0001000-1.instance | Incremental (1a) | 1 | 1000 | -1638842440(1.63884e+09) | -0.464293 | 14009 |
| uniform-0001000-1.instance | Incremental (1b) | 1 | 1000 | -1759027212(1.75903e+09) | -0.498342 | 14284 |
| uniform-0001000-1.instance | Incremental (2a) | 1 | 1000 | -1671040284(1.67104e+09) | -0.473415 | 14965 |
| uniform-0001000-1.instance | Incremental (2b) | 1 | 1000 | -1788176010(1.78818e+09) | -0.5066 | 15133 |
| uniform-0001000-1.instance | convex hull | 1 | 1000 | Αργεί πάρα πολύ | | |

Uniform edge selection2:

| Name File | Algorithm (Sorting) | Edge Selection | Points | Area | Ratio | Time(ms) |
|----------------------------|---------------------|----------------|--------|--------------------------|-----------|----------|
| uniform-000100-1.instance | Incremental (1a) | 2 | 100 | -10668096(1.06681e+07) | -0.320233 | 71 |
| uniform-000100-1.instance | convex hull | 2 | 100 | 11656546(1.16565e+07) | 0.349904 | 2720 |
| uniform-0001000-1.instance | Incremental (1a) | 2 | 1000 | -994532538(9.94533e+08) | -0.281757 | 9457 |
| uniform-0001000-1.instance | Incremental (1b) | 2 | 1000 | -1005083284(1.00508e+09) | -0.284746 | 9276 |
| uniform-0001000-1.instance | Incremental (2a) | 2 | 1000 | -981700396(9.817e+08) | -0.278121 | 11456 |
| uniform-0001000-1.instance | Incremental (2b) | 2 | 1000 | -1053926390(1.05393e+09) | -0.298583 | 11170 |
| uniform-0001000-1.instance | convex hull | 2 | 1000 | αργεί πάρα πολύ | | |

Uniform edge selection 3:

| Name File | Algorithm (Sorting) | Edge Selection | Points | Area | Ratio | Time(ms) |
|----------------------------|---------------------|----------------|--------|--------------------------|-----------|----------|
| uniform-0000100-1.instance | Incremental (1a) | 3 | 100 | -23777634(2.37776e+07) | -0.713752 | 245 |
| uniform-0000100-1.instance | convex hull | 3 | 100 | 27923150(2.79232e+07) | 0.838191 | 3515 |
| uniform-0001000-1.instance | Incremental (1a) | 3 | 1000 | -2147483648(2.3726e+09) | -0.608394 | 19472 |
| uniform-0001000-1.instance | Incremental (1b) | 3 | 1000 | -2147483648(2.39436e+09) | -0.608394 | 17910 |

| | | | | | | |
|----------------------------|------------------|---|------|--------------------------|-----------|-------|
| uniform-0001000-1.instance | Incremental (2a) | 3 | 1000 | -2147483648(2.43175e+09) | -0.608394 | 20672 |
| uniform-0001000-1.instance | Incremental (2b) | 3 | 1000 | -2147483648(2.45004e+09) | -0.608394 | 21493 |
| uniform-0001000-1.instance | convex hull | 3 | 1000 | Αργεί πάρα πολύ | | |

Παρατηρήσεις:

- Για edge selection=2 παρατηρούμε ότι το ratio τείνει προς το 1, ενώ για edge selection=3 τείνει προς 0.
- Όσο μεγαλώνει το πλήθος των σημείων στο επίπεδο τόσο αυξάνεται και ο χρόνος εκτέλεσης του αλγορίθμου.
- Ο δεύτερος αλγόριθμος (convex hull) είναι αρκετά πιο αργός από τον πρώτο (incremental) αφού στον δεύτερο δεν υπάρχει καμία προεπεξεργασία των δεδομένων (ταξινόμηση σημείων ως προς μία μεταβλητή) και κάθε φορά ελέγχει όλα τα σημεία έτσι ώστε να βρει ποιο σημείο θα επιλέξει.