```
time make p=ex2
g++ -std=gnu++14 ex2.cpp -o ex2 -fmax-errors=2 `pkg-config opencv4 --libs --
cflags` -O3 -s
./ex2
Image: tmatch_extra/a1.jpg
Query: 1      Best Score: 0.976254 at [55, 153]   Best Angle: 357
Query: 2      Best Score: 0.973631 at [289, 105]  Best Angle: 303
Query: 3      Best Score: 0.948959 at [56, 233]   Best Angle: 177
Query: 4      Best Score: 0.943956 at [295, 358]  Best Angle: 54
Query: 5      Best Score: 0.969668 at [154, 196]  Best Angle: 15
Query: 6      Best Score: 0.934465 at [294, 206]  Best Angle: 126
Query: 7      Best Score: 0.977245 at [194, 63]   Best Angle: 261
Query: 8      Best Score: 0.942998 at [215, 409]  Best Angle: 217
Query: 9      Best Score: 0.962695 at [65, 50]    Best Angle: 153
Query: 10     Best Score: 0.957653 at [77, 420]   Best Angle: 73
Query: 11     Best Score: 0.977507 at [74, 332]   Best Angle: 343
Query: 12     Best Score: 0.927088 at [181, 314]  Best Angle: 300

Image: tmatch_extra/a2.jpg
Query: 1      Best Score: 0.999195 at [42, 42]    Best Angle: 0
Query: 2      Best Score: 0.999265 at [125, 44]   Best Angle: 0
Query: 3      Best Score: 0.99894 at [210, 42]    Best Angle: 0
Query: 4      Best Score: 0.998101 at [40, 126]   Best Angle: 0
Query: 5      Best Score: 0.998597 at [124, 128]  Best Angle: 0
Query: 6      Best Score: 0.999111 at [211, 125]  Best Angle: 0
Query: 7      Best Score: 0.999198 at [40, 210]   Best Angle: 0
Query: 8      Best Score: 0.999012 at [125, 212]  Best Angle: 0
Query: 9      Best Score: 0.998748 at [212, 212]  Best Angle: 0
Query: 10     Best Score: 0.998515 at [39, 296]   Best Angle: 0
Query: 11     Best Score: 0.999253 at [126, 296]  Best Angle: 0
Query: 12     Best Score: 0.998394 at [211, 295]  Best Angle: 0

Image: tmatch_extra/a3.jpg
Query: 1      Best Score: 0.977262 at [276, 64]   Best Angle: 57
Query: 2      Best Score: 0.956555 at [250, 359]  Best Angle: 134
Query: 3      Best Score: 0.953186 at [164, 230]  Best Angle: 115
Query: 4      Best Score: 0.968947 at [74, 52]    Best Angle: 15
Query: 5      Best Score: 0.955064 at [58, 154]   Best Angle: 75
Query: 6      Best Score: 0.950133 at [151, 138]  Best Angle: 5
Query: 7      Best Score: 0.975202 at [141, 360]  Best Angle: 22
Query: 8      Best Score: 0.962229 at [176, 50]   Best Angle: 354
Query: 9      Best Score: 0.953094 at [57, 239]   Best Angle: 75
Query: 10     Best Score: 0.948392 at [268, 267]  Best Angle: 316
Query: 11     Best Score: 0.977137 at [41, 342]   Best Angle: 276
Query: 12     Best Score: 0.949051 at [267, 163]  Best Angle: 89

Image: tmatch_extra/a4.jpg
Query: 1      Best Score: 0.976002 at [277, 148]  Best Angle: 82
Query: 2      Best Score: 0.971961 at [142, 49]   Best Angle: 203
Query: 3      Best Score: 0.982548 at [266, 53]   Best Angle: 90
Query: 4      Best Score: 0.967952 at [275, 344]  Best Angle: 324
Query: 5      Best Score: 0.962667 at [56, 263]   Best Angle: 198
Query: 6      Best Score: 0.925846 at [187, 377]  Best Angle: 136
Query: 7      Best Score: 0.979782 at [162, 269]  Best Angle: 119
Query: 8      Best Score: 0.951505 at [77, 366]   Best Angle: 278
Query: 9      Best Score: 0.969292 at [276, 230]  Best Angle: 171
Query: 10     Best Score: 0.958287 at [71, 172]   Best Angle: 17
Query: 11     Best Score: 0.978575 at [175, 167]  Best Angle: 10
Query: 12     Best Score: 0.949259 at [56, 75]    Best Angle: 113

Image: tmatch_extra/a5.jpg
Query: 1      Best Score: 0.965808 at [154, 370]  Best Angle: 180
```

```
Query: 2     Best Score: 0.975026 at [142, 60]   Best Angle: 307
Query: 3     Best Score: 0.959174 at [244, 169]  Best Angle: 294
Query: 4     Best Score: 0.949833 at [250, 61]   Best Angle: 307
Query: 5     Best Score: 0.948515 at [51, 155]   Best Angle: 18
Query: 6     Best Score: 0.94113 at [147, 179]   Best Angle: 287
Query: 7     Best Score: 0.97301 at [269, 251]   Best Angle: 200
Query: 8     Best Score: 0.961736 at [261, 359]  Best Angle: 206
Query: 9     Best Score: 0.946506 at [67, 257]   Best Angle: 110
Query: 10    Best Score: 0.963244 at [178, 264]  Best Angle: 209
Query: 11    Best Score: 0.972277 at [42, 39]    Best Angle: 182
Query: 12    Best Score: 0.943908 at [54, 353]   Best Angle: 288

Image: tmatch_extra/a6.jpg
Query: 1     Best Score: 0.994017 at [41, 42]    Best Angle: 0
Query: 2     Best Score: 0.977948 at [125, 43]   Best Angle: 1
Query: 3     Best Score: 0.995068 at [210, 42]   Best Angle: 0
Query: 4     Best Score: 0.954038 at [211, 210]  Best Angle: 1
Query: 5     Best Score: 0.968677 at [40, 128]   Best Angle: 0
Query: 6     Best Score: 0.980611 at [127, 126]  Best Angle: 0
Query: 7     Best Score: 0.970569 at [210, 293]  Best Angle: 1
Query: 8     Best Score: 0.958122 at [42, 212]   Best Angle: 0
Query: 9     Best Score: 0.960181 at [127, 212]  Best Angle: 1
Query: 10    Best Score: 0.9709 at [41, 297]     Best Angle: 0
Query: 11    Best Score: 0.987833 at [126, 296]  Best Angle: 0
Query: 12    Best Score: 0.957546 at [211, 127]  Best Angle: 0

Image: tmatch_extra/a7.jpg
Query: 1     Best Score: 0.965341 at [52, 249]   Best Angle: 71
Query: 2     Best Score: 0.979188 at [131, 130]  Best Angle: 1
Query: 3     Best Score: 0.950254 at [53, 54]    Best Angle: 24
Query: 4     Best Score: 0.96941 at [227, 148]   Best Angle: 72
Query: 5     Best Score: 0.950934 at [54, 355]   Best Angle: 12
Query: 6     Best Score: 0.940747 at [239, 344]  Best Angle: 356
Query: 7     Best Score: 0.970741 at [154, 43]   Best Angle: 2
Query: 8     Best Score: 0.954504 at [153, 222]  Best Angle: 74
Query: 9     Best Score: 0.947244 at [248, 261]  Best Angle: 358
Query: 10    Best Score: 0.96048 at [43, 155]    Best Angle: 355
Query: 11    Best Score: 0.9741 at [251, 54]     Best Angle: 338
Query: 12    Best Score: 0.941561 at [147, 315]  Best Angle: 342

Image: tmatch_extra/a8.jpg
Query: 1     Best Score: 0.970356 at [231, 140]  Best Angle: 22
Query: 2     Best Score: 0.967193 at [86, 402]   Best Angle: 64
Query: 3     Best Score: 0.952741 at [163, 309]  Best Angle: 23
Query: 4     Best Score: 0.952176 at [191, 396]  Best Angle: 12
Query: 5     Best Score: 0.955619 at [55, 61]    Best Angle: 26
Query: 6     Best Score: 0.954135 at [50, 202]   Best Angle: 252
Query: 7     Best Score: 0.960544 at [262, 240]  Best Angle: 38
Query: 8     Best Score: 0.974004 at [208, 57]   Best Angle: 27
Query: 9     Best Score: 0.942441 at [149, 222]  Best Angle: 290
Query: 10    Best Score: 0.957284 at [60, 300]   Best Angle: 265
Query: 11    Best Score: 0.974824 at [268, 340]  Best Angle: 274
Query: 12    Best Score: 0.939303 at [128, 122]  Best Angle: 286


real  15m51,554s
user  13m57,887s
sys   1m54,632s
```