|  |  |  |  |
| --- | --- | --- | --- |
| **Case** | **K** | **Gaussian** | **Time limit (in MS)** |
| **Easy 1** | 30000 | Mask Size = 5  Sigma = 0.8 | - |
| **Easy 2** | 25000 | Mask Size = 5  Sigma = 0.8 | - |
| **Medium 1** | 30000 | Mask Size = 5  Sigma = 0.8 | 35000 |
| **Medium 2** | 20000 | Mask Size = 5  Sigma = 0.8 | 32000 |
| **Hard 1** | 35000 | Mask Size = 5  Sigma = 0.8 | 180000 |
| **Hard 2** | 30000 | Mask Size = 5  Sigma = 0.8 | 102000 |

**Notes:**

* Timing Setup :

// Start the timer immediately before your core segmentation work

Stopwatch timer = Stopwatch.StartNew();

// … call your segmentation method, assign colors, sort sizes …

timer.Stop();

long time = timer.ElapsedMilliseconds;

* What **to include** in the timed section:
  + Image segmentation logic.
  + Assigning a unique random color to each component.
  + Sorting the segments sizes in descending order.
* What **to exclude** from the timed section:
  + Reading or loading the image from disk.
  + Applying the Gaussian filter (pre-processing).
  + Writing the segments count and sizes to input.txt.
  + Saving the final image.
  + Rendering or displaying the image in a window.

By starting the stopwatch right before imageSegmentation(...) (and its post-processing) and stopping it immediately afterward, you ensure that only your algorithm’s core work is measured.