MP.7 Performance Evaluation 1: Count the number of keypoints on the preceding vehicle for all 10 images and take note of the distribution of their neighborhood size. Do this for all the detectors you have implemented.

Name	Avg Time (ms)	Avg Total detectors	Avg Detectors after cropping
ShiTomasi	19.70	1342	117
Harris	19.6	72	17
FAST	0.92	1787	149
BRISK	439.6	2711	276
SIFT	164.99	1386	138
ORB	10.06	500	116
AKAZE	119.62	1342	167

MP.8 Performance Evaluation 2 - Count the **number of matched keypoints for all 10 images using all possible combinations of detectors and descriptors**. In the matching step, the BF approach is used with the descriptor distance ratio set to 0.8.

Detector/descriptor	BRISK	ORB	FREAK	AKAZE	SIFT
SHITOMASI	85	100	85	N/A	103
HARRIS	14	16	14	N/A	16
FAST	99	119	97	N/A	116
BRISK	174	254	167	N/A	182
ORB	83	84	46	N/A	84
AKAZE	135	131	131	139	141

MP.9 Performance Evaluation 3 - Log the time it takes for keypoint detection and descriptor extraction. The results must be entered into a spreadsheet and based on this data, the TOP3 detector / descriptor combinations must be recommended as the best choice for our purpose of detecting keypoints on vehicles.

Detector/descriptor	BRISK	ORB	FREAK	AKAZE	SIFT
SHITOMASI	22.1901	21.3448	60.68	N/A	37.80
HARRIS	21.08	20.85	63.25	N/A	42.9
FAST	3.86	2.22	51.19	N/A	37.4
BRISK	440	460.364	480.01	N/A	500.715
ORB	11.67	14.74	58.49	N/A	87.65
AKAZE	120.252	121.542	169.79	249.919	145.82

Recommendation (First, second, third)

1) **FAST Detector + ORB Descriptor → Lowest time and high match count**
2) **FAST Detector + BRISK Descriptor → Very fast and high match count**
3) **ORB Detector + BRISK Descriptor → Fast and decent match count**