The measurements were taken on a laptop with the following specifications:

Model Name:	*MacBook Pro*
Model Identifier:	*Mac15,3*
Model Number:	*MXE03KS/A*
Chip:	*Apple M3*
Total Number of Cores:	*8 (4 performance and 4 efficiency)*
Memory:	*16 GB*

*Also, **OpenCV version 4.11.0** was used to take data*

TASK 7

Table 1: Shows the number of keypoints on the preceding vehicles for each detector

Detectors / Images	SHITOMASI	HARRIS	FAST	BRISK	ORB	AKAZE	SIFT
1	125	17	149	254	91	162	137
2	118	14	152	274	102	157	131
3	123	18	150	276	106	159	121
4	120	21	155	275	113	154	135
5	120	26	149	293	109	162	134
6	113	43	149	275	124	163	139
7	114	18	156	289	129	173	136
8	123	31	150	268	127	175	147
9	111	26	138	259	124	175	156
10	112	34	143	250	125	175	135
AVERAGE	**118**	**25**	**149**	**271**	**115**	**166**	**137**

TASK 8

*Table 2: Shows the number of **matched keypoints** on all 10 images using possible combinations of **Shitomasi detector** and **BRISK, BRIEF, ORB, FREAK and SIFT descriptors***

	SHITOMASI (Detector)				
Descriptors / Images	BRISK	BRIEF	ORB	FREAK	SIFT
1 - 2	95	115	104	90	112

2 - 3	88	111	103	88	109
3 - 4	80	104	100	87	104
4 - 5	90	101	102	89	103
5 - 6	82	102	103	83	99
6 - 7	79	102	98	78	101
7 - 8	85	100	98	81	96
8 - 9	86	109	102	86	106
9 - 10	82	100	97	84	97
AVERAGE	85	105	101	85	103

*Table 3: Shows the number of **matched keypoints** on all 10 images using possible combinations of $HARRIS$ detector and **BRISK, BRIEF, ORB, FREAK and SIFT descriptors***

	HARRIS (Detector)				
Descriptors / **Images**	**BRISK**	**BRIEF**	**ORB**	**FREAK**	**SIFT**
1 - 2	12	14	12	13	14
2 - 3	10	11	13	13	11
3 - 4	14	15	16	15	16
4 - 5	15	20	18	15	19
5 - 6	16	24	24	17	22
6 - 7	16	26	18	20	22
7 - 8	15	16	15	14	13
8 - 9	23	24	24	21	24
9 - 10	21	23	20	18	22
AVERAGE	16	19	18	16	18

*Table 4: Shows the number of **matched keypoints** on all 10 images using possible combinations of $FAST$ detector and **BRISK, BRIEF, ORB, FREAK and SIFT descriptors***

	FAST (Detector)				
Descriptors / **Images**	**BRISK**	**BRIEF**	**ORB**	**FREAK**	**SIFT**
1 - 2	97	119	122	97	118
2 - 3	104	130	122	98	123

3 - 4	101	118	115	94	110
4 - 5	98	126	129	99	119
5 - 6	85	108	107	88	114
6 - 7	107	123	120	99	119
7 - 8	107	131	126	104	123
8 - 9	100	125	122	99	117
9 - 10	100	119	118	103	103
AVERAGE	100	122	120	98	116

*Table 5: Shows the number of **matched keypoints** on all 10 images using possible combinations of **BRISK** detector and BRISK, BRIEF, ORB, FREAK and SIFT descriptors*

	BRISK (Detector)				
Descriptors / **Images**	**BRISK**	**BRIEF**	**ORB**	**FREAK**	**SIFT**
1 - 2	168	174	153	154	177
2 - 3	169	195	164	173	187
3 - 4	157	182	155	154	171
4 - 5	170	177	165	168	177
5 - 6	171	182	150	157	168
6 - 7	186	193	179	181	190
7 - 8	174	208	169	169	193
8 - 9	167	185	173	175	173
9 - 10	182	179	171	165	181
AVERAGE	172	186	164	166	180

*Table 6: Shows the number of **matched keypoints** on all 10 images using possible combinations of **ORB** detector and BRISK, BRIEF, ORB, FREAK and SIFT descriptors*

	ORB (Detector)				
Descriptors / **Images**	**BRISK**	**BRIEF**	**ORB**	**FREAK**	**SIFT**
1 - 2	73	49	65	41	66
2 - 3	74	43	69	36	79

3 - 4	79	45	71	45	78
4 - 5	85	59	85	47	79
5 - 6	79	53	91	44	82
6 - 7	90	76	99	51	93
7 - 8	88	67	94	52	94
8 - 9	86	83	91	48	93
9 - 10	90	65	89	53	92
AVERAGE	83	60	84	46	84

*Table 7: Shows the number of **matched keypoints** on all 10 images using possible combinations of $AKAZE$ detector and **BRISK, BRIEF, ORB, FREA, AKAZE and SIFT descriptors***

	AKAZE (Detector)					
Descriptors Images	**BRISK**	**BRIEF**	**ORB**	**FREAK**	**AKAZE**	**SIFT**
1 - 2	134	137	127	123	135	132
2 - 3	124	133	128	127	138	134
3 - 4	129	130	127	129	132	129
4 - 5	128	130	114	121	126	136
5 - 6	130	134	131	123	128	136
6 - 7	132	146	132	132	146	147
7 - 8	142	150	136	145	147	147
8 - 9	144	147	138	146	149	153
9 - 10	141	150	144	135	148	149
AVERAGE	134	140	131	131	139	140

*Table 8: Shows the number of **matched keypoints** on all 10 images using possible combinations of $SIFT$ detector and **BRISK, BRIEF, FREAK and SIFT descriptors***

	SIFT (Detector)			
Descriptors Images	**BRISK**	**BRIEF**	**FREAK**	**SIFT**
1 - 2	63	86	63	81
2 - 3	64	76	70	79

3 - 4	60	72	63	83
4 - 5	65	83	65	92
5 - 6	59	69	63	90
6 - 7	65	75	59	82
7 - 8	64	76	64	82
8 - 9	67	69	65	100
9 - 10	79	87	79	101
AVERAGE	67	75	64	87