Name: Nathan Foster, Govind Pillai

UWNetID: njfoster, govindg

Section: BE

1. We used the approach of separating the arrays into keys and values.

2. N/A

3. There are 62,007 black pixels in the Mona Lisa image.

4. Collisions Table:

Bits Per Pixel	C(Mona,linear)	C(Mona,quadratic)	C(Starry,linear)	C(Starry,quadratic)	C(Christina,linear)	C(Christina,quadratic)
24	1124837	214629	658298	197638	778340	79495
21	436232	136217	116374	48161	50827	27186
18	8528	3776	701768	148650	39302	17987
15	1877	1297	2940	1227	4120	2334
12	33620	21770	11904	4581	50912	42150
9	215	145	43	32	996	874
6	1066	1082	3	3	6	6
3	0	0	2	2	97	97

5. Similarity Table:

,			
Bits Per Pixel	S(Mona,Starry)	S(Mona,Christina)	S(Starry,Christina)
24	0.0327607089620014	0.017471196122392552	0.013990998390958492
21	0.03992704956375694	0.02039716860419713	0.016081468672529364
18	0.05217037327548173	0.02588162839776067	0.019386194073170427
15	0.08036014547544201	0.04109735958361244	0.02492564197878972
12	0.18420924154948243	0.11444607629119588	0.038654575555560844
9	0.4169155053241995	0.36221891600346273	0.080113002304873
6	0.6525555900417032	0.39759409540707397	0.26956305999084973
3	0.8352736111936188	0.9639353097672825	0.8591034028760752

6. Looking at the hashCode method of class ColorKey, it is apparent that images containing many pixels with similar rgb values would cause more collisions relative to other images.