

INTRODUCTION

Galaxy is a celestial body which is the large system consists of numerous stellar systems, interstellar gas and dust. Galaxies have the difference in their shape and size, these differences also cause the difference in the number of stars in galaxies. The author of this study investigated the correlation between the galaxies' size and the number of stars in various types of galaxies by using images from the SIMBAD database to find these relationships.

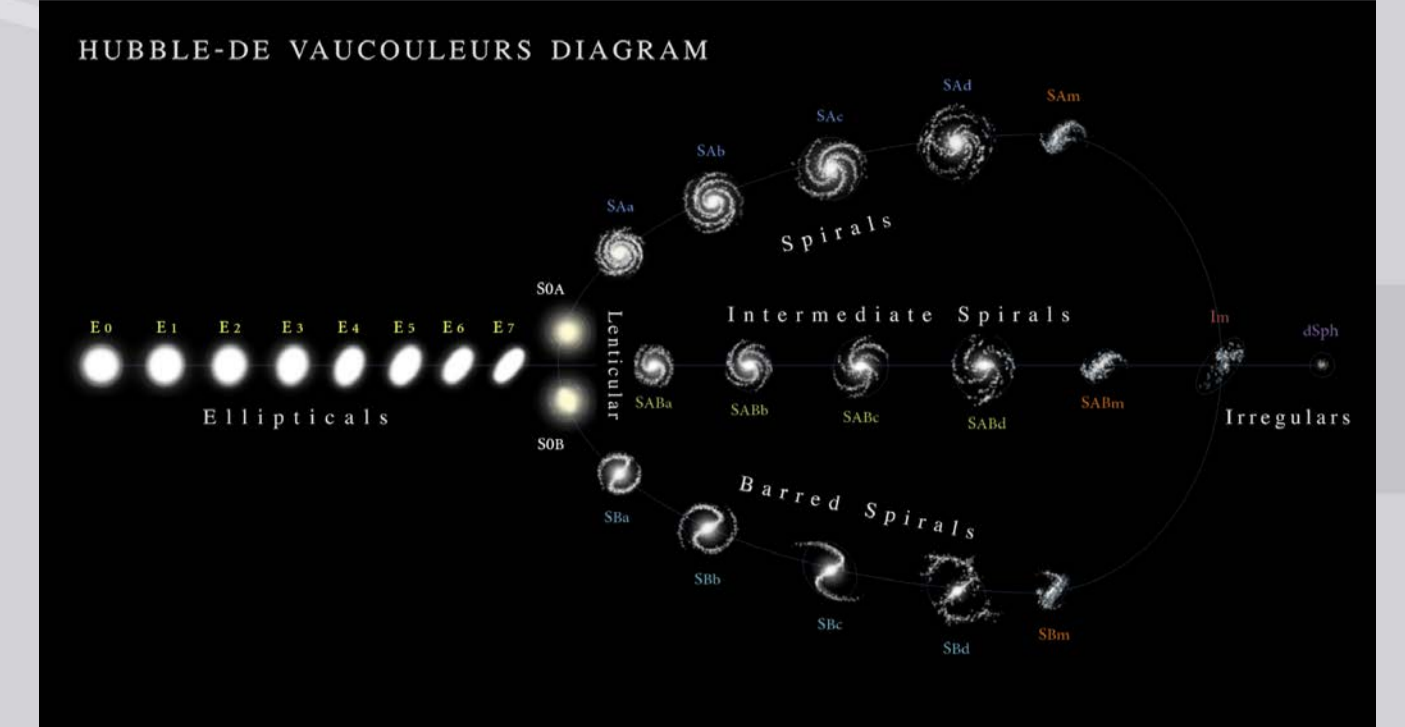


Figure 1 : The various types of galaxies.

METHODS

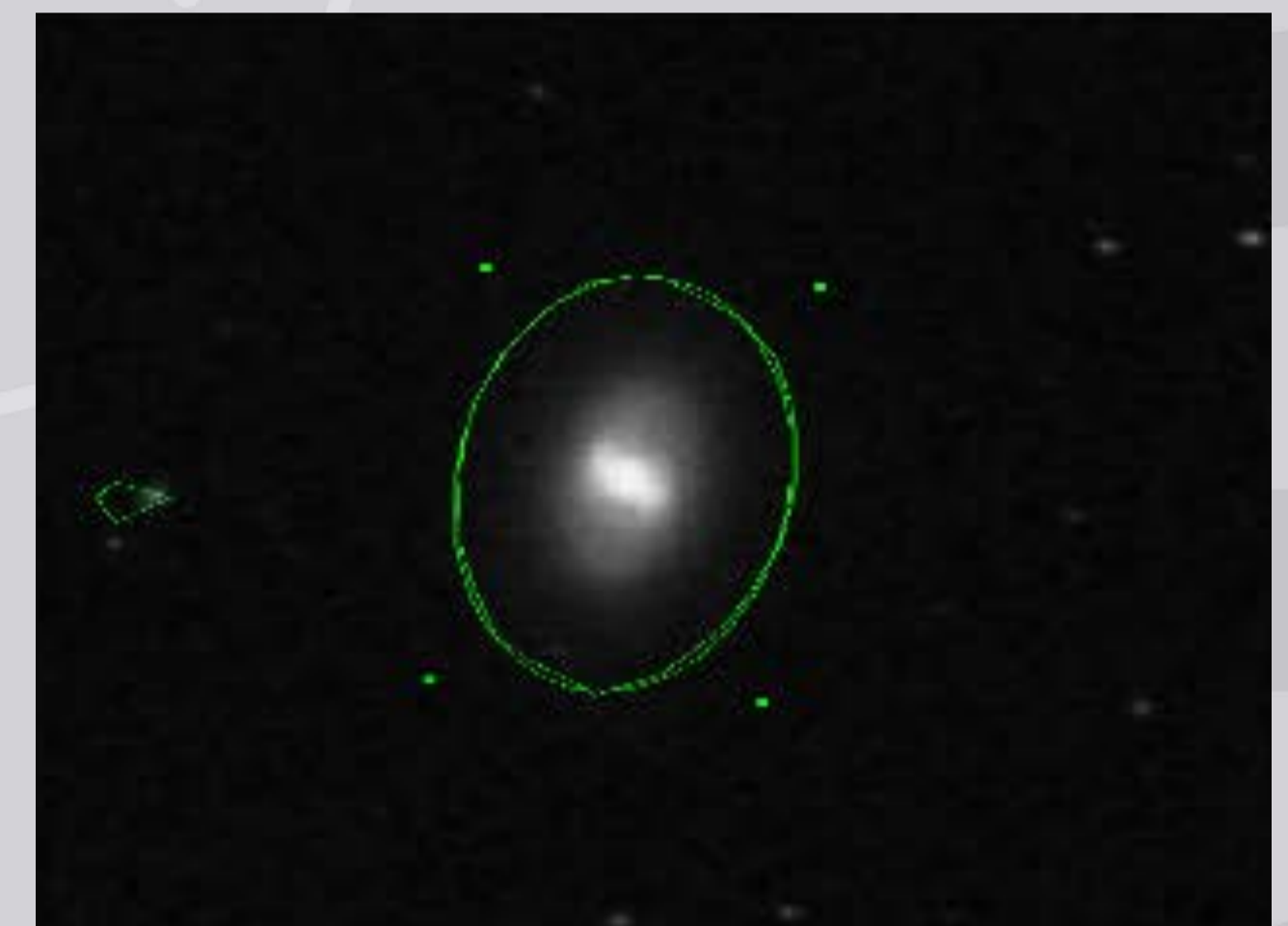
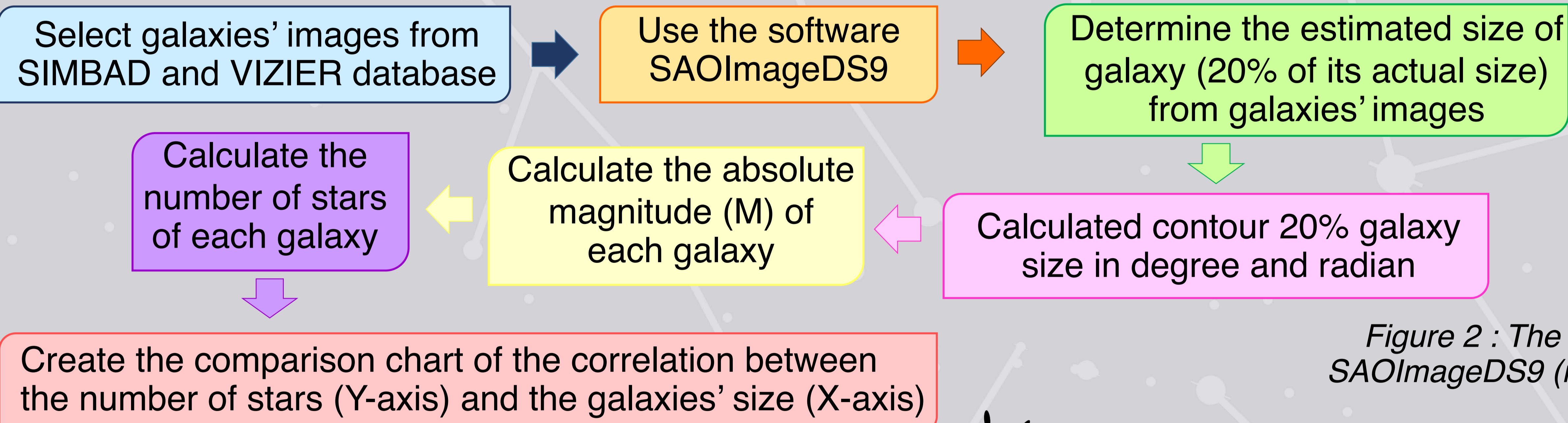


Figure 2 : The Contour image of the Galaxy in SAOImageDS9 (measuring the size of the Galaxy).

RESULTS

Type of galaxy	The number of stars (Billion-stars)	The size of the galaxy (Mpc-rad)	The highest number of stars in each type of galaxies (Billion stars)	The number of studied galaxies	The average of stars for galaxy type (Billion-stars/Mpc-rad)
E	0-20	0-0.015	106	32	highest
S0	0-20	0-0.009	54	79	moderate
SAB	0-20	0-0.02	45	38	lowest
SB	0-20	0-0.008	48	55	high
S	0-20	0-0.007	49	98	low

Table 1 : The summary of the number of stars in each galaxy type.

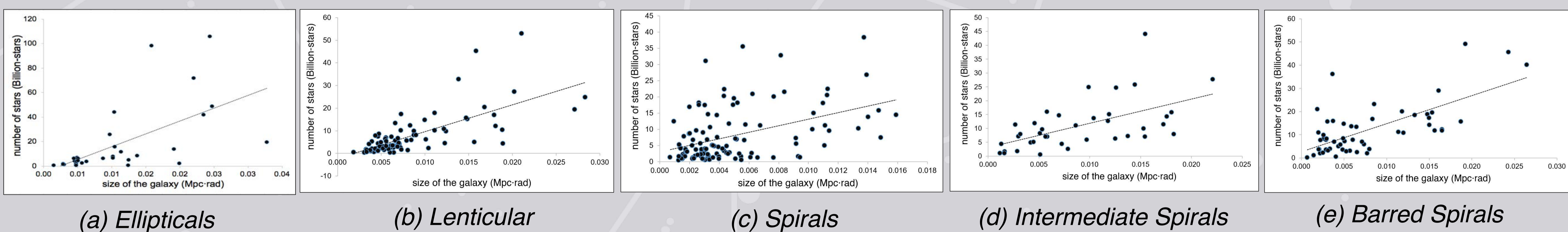


Figure 3 : The relationship between the number of stars and the galaxies' size in different types of galaxies.

CONCLUSIONS

The study found that the number of stars varies directly with the galaxies' size. On the other hand, it can be said that the higher number of stars, the larger size of the galaxy. However, This direct variation pattern is not found in some galaxies.

REFERENCE

Ann H. B., Mira Seo , and Ha D. K. (2015). A CATALOG OF VISUALLY CLASSIFIED GALAXIES IN THE LOCAL ($z \sim 0.01$) UNIVERSE. The Astrophysical Journal Supplement Series. 217:27