Astronomy 304, STARS

Homework # 4, Due Wednesday, Feb. 5, 2003

1. Sky and Telescope Spectral Classification lab

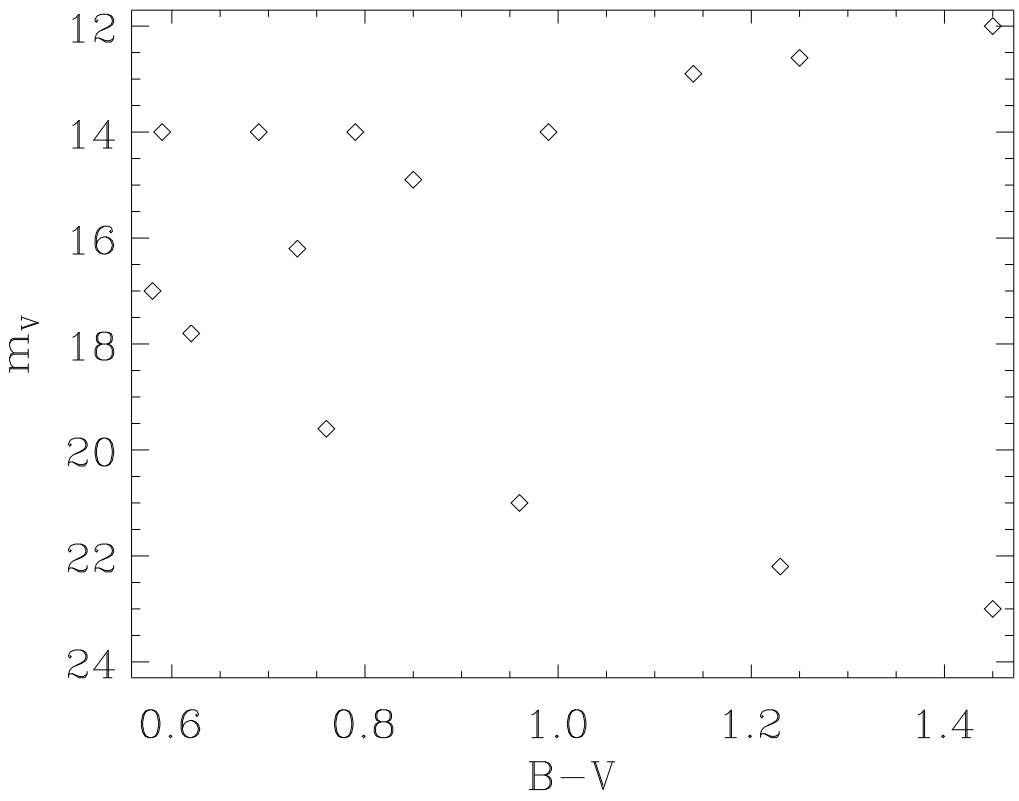
Star	Spectral Class
1	B0
2	A0
3	WC
4	K2
5	O
6	F2
7	A0
8	A0
9	B0
10	A7
11	F2
12	G8
13	WN
14	B0
15	F2
16	F5
17	F2
18	K0
19	A2
20	B8
21	A5
22	O
23	F0
24	A5
25	WN
26	K0
27	G5
28	G5
29	A0
30	A0

2. Hertzsprung - Russell (HR) (Color-Magnitude) diagram

Plot the Hertzsprung - Russell (HR) (Color-Magnitude) diagram for the cluster of stars whose apparent magnitude m_V and color (B-V) are given in the following table. Label the

Main Sequence, **Red Giant** region, and the **White Dwarf** region of the diagram.

Star Number	Apparent Visual Magnitude m_V	Color B-V
10012	19.6	0.76
10206	21.0	0.96
10359	22.2	1.23
10610	23.0	1.45
40002	12.0	1.45
40022	12.6	1.25
40043	12.9	1.14
40130	14.0	0.99
40135	14.0	0.69
40144	14.0	0.79
40164	14.0	0.59
40351	14.9	0.85
40628	16.2	0.73
41107	17.0	0.58
42535	17.8	0.62



NOTE: brighter stars have smaller magnitudes and should come towards the top of the HR diagram.