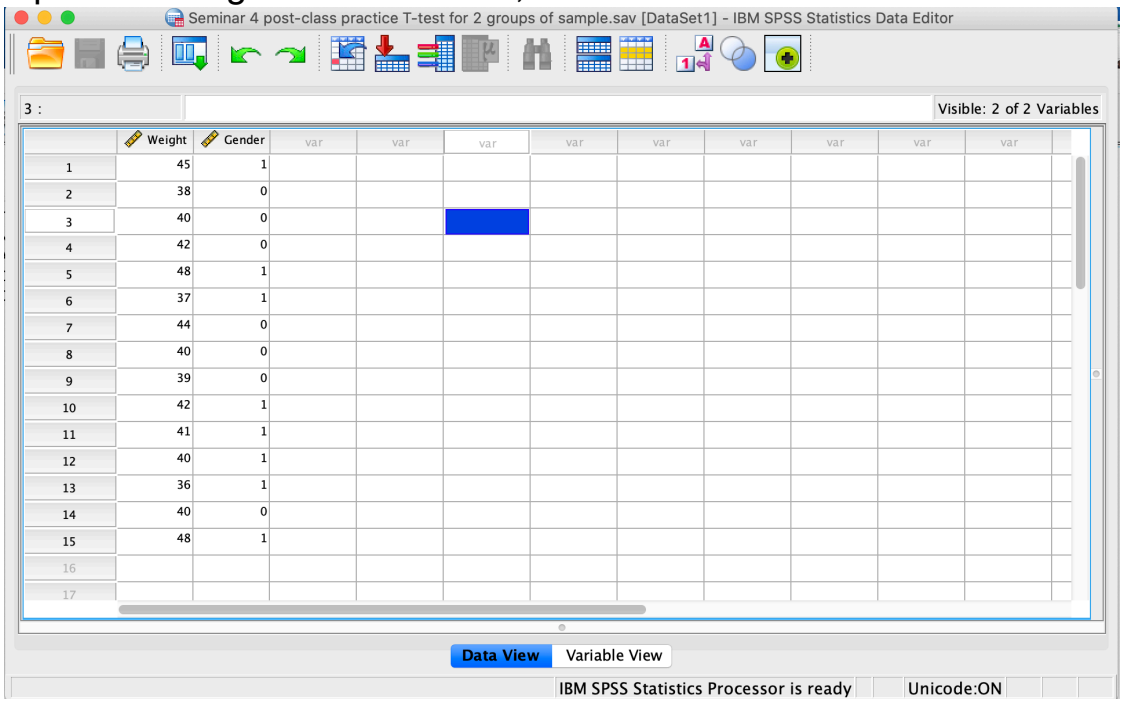
Seminar 4-SPSS Instructions for TWO Sample t test

Using the given data file (Seminar 4 post-class practice T-test for 2 groups of sample.sav) to examine the question whether there is a significant difference in weight between females and males. Of the variable “gender”, males are coded as 1, whereas females as 0

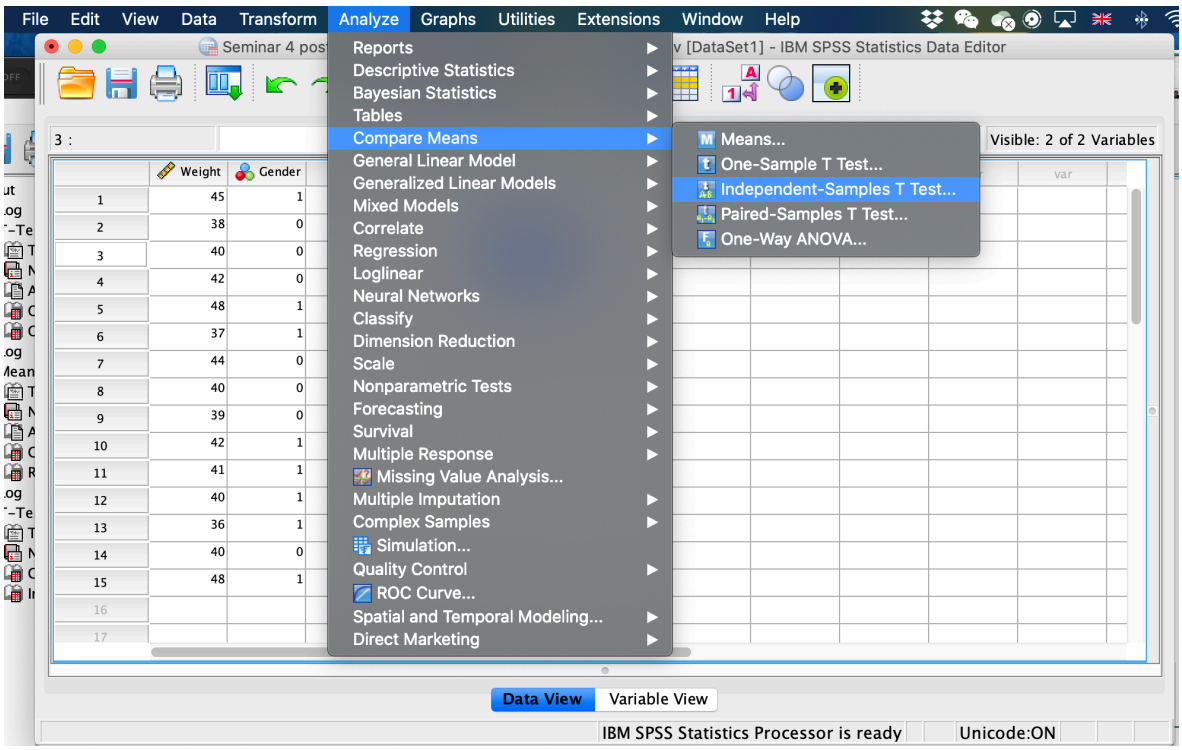
Open the file given on Canvas , shown as below:



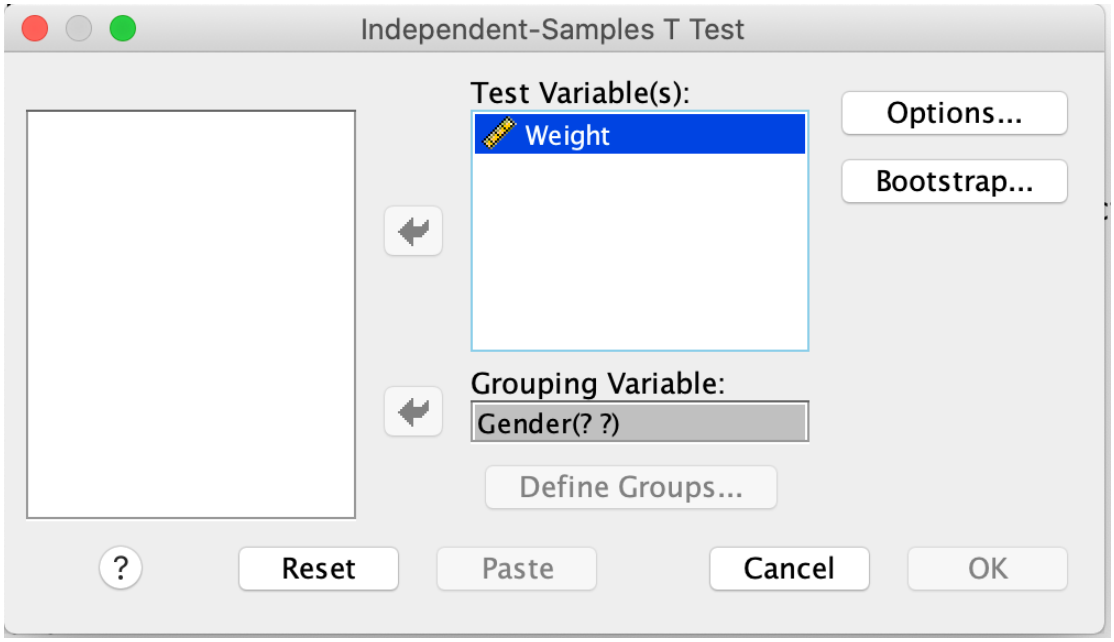
	Weight	Gender
1	45	1
2	38	0
3	40	0
4	42	0
5	48	1
6	37	1
7	44	0
8	40	0
9	39	0
10	42	1
11	41	1
12	40	1
13	36	1
14	40	0
15	48	1

Run the test as follows:

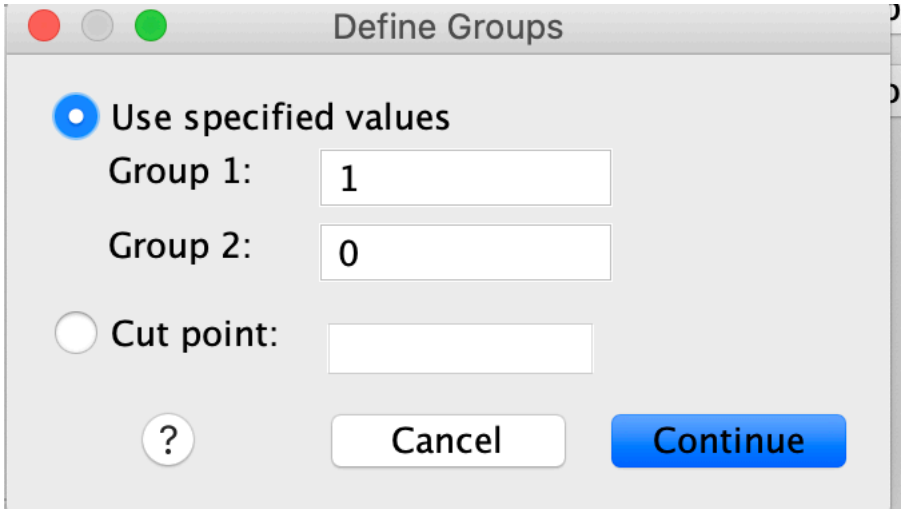
From the menus select Analyze-> Compare Means -> Independent Samples T Test, as below:



Click on the variable and add it to Test Variable (s) and Group variable respectively. Worked as below:



Click on define groups to define one group as males indicated by 1, and group 2 as females indicated by 0, and click Continue



Click OK to run the test, results below:

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Weight	Equal variances assumed	4.783	.048	.905	13	.382	1.696	1.875	-2.354	5.747
	Equal variances not assumed			.950	9.808	.365	1.696	1.785	-2.292	5.685

PTO

The test will run and should agree with the results you got from hand calculations:

Note that SPSS give you a ‘p value’
You don’t need to look up the critical values in tables when using SPSS, you can just interpret the p value:
If the ***p value is less than 0.05*** you ***Reject the Null Hypothesis***. (assuming we are using a significance level of 5%, which we commonly will be)

APPENDIX B: PARTIAL *t*-TABLES

	Area above (to the right of) critical value					
DEGREES OF FREEDOM (v)	**0.05**	**0.025**	**0.01**	**0.005**	**0.001**	**0.0005**
1	6.314	12.706	31.821	63.657	318.309	636.619
2	2.92	4.303	6.965	9.925	22.327	31.599
3	2.353	3.182	4.541	5.841	10.215	12.924
4	2.132	2.776	3.747	4.604	7.173	8.61
5	2.015	2.571	3.365	4.032	5.893	6.869
6	1.943	2.447	3.143	3.707	5.208	5.959
7	1.895	2.365	2.998	3.499	4.785	5.408
8	1.86	2.306	2.896	3.355	4.501	5.041
9	1.833	2.262	2.821	3.25	4.297	4.781
10	1.812	2.228	2.764	3.169	4.144	4.587
11	1.796	2.201	2.718	3.106	4.025	4.437
12	1.782	2.179	2.681	3.055	3.93	4.318
13	1.771	2.16	2.65	3.012	3.852	4.221
14	1.761	2.145	2.624	2.977	3.787	4.14
15	1.753	2.131	2.602	2.947	3.733	4.073
16	1.746	2.12	2.583	2.921	3.686	4.015
17	1.74	2.11	2.567	2.898	3.646	3.965
18	1.734	2.101	2.552	2.878	3.61	3.922
19	1.729	2.093	2.539	2.861	3.579	3.883
20	1.725	2.086	2.528	2.845	3.552	3.85

	Area above (to the right of) critical value					
DEGREES OF FREEDOM (v)	**0.05**	**0.025**	**0.01**	**0.005**	**0.001**	**0.0005**
21	1.721	2.08	2.518	2.831	3.527	3.819

22	1.717	2.074	2.508	2.819	3.505	3.792
23	1.714	2.069	2.5	2.807	3.485	3.768
24	1.711	2.064	2.492	2.797	3.467	3.745
25	1.708	2.06	2.485	2.787	3.45	3.725
26	1.706	2.056	2.479	2.779	3.435	3.707
27	1.703	2.052	2.473	2.771	3.421	3.69
28	1.701	2.048	2.467	2.763	3.408	3.674
29	1.699	2.045	2.462	2.756	3.396	3.659
30	1.697	2.042	2.457	2.75	3.385	3.646
35	1.69	2.03	2.438	2.724	3.34	3.591
40	1.684	2.021	2.423	2.704	3.307	3.551
Infinity	1.645	1.96	2.326	2.576	3.09	3.291