

Lab Class 3					
index	Number	Question	Correct (a fraction)	Max Mark	Comments
1_1	1_1	(a) <code>f=x.sum()</code>	5	5	
1_2	1_2	(b) <code>m = x.mean()</code>	5	5	
1_3	1_3	(c) <code>m = (x*w).sum()</code>	3	5	The indices of x and w should be the same
2_1	2_1	Derive the the gradient of the objective function with respect to the slope, m	5	5	
2_2	2_2	Rearrange it to show that the update equation written above does find the stationary points of the objective function.	10	10	
2_3	2_3	By computing the second derivative show that its a minimum.	5	5	
3_2	3_2	(a) Initialise with <code>m=-0.4</code> and <code>c=80</code> .	5	5	
3_3	3_3	(b) Every 10 iterations compute the value of the objective function for the training data and print it to the screen (you'll find hints on this in [the lab from last week](./week2.ipynb).	5	5	
3_4	3_4	(c) Cause the code to stop running when the error change over less than 10 iterations is smaller than 1×10^{-4} . This is known as a stopping criterion.	5	5	
3_5	3_5	Code runs correctly	5	5	
3_6	3_6	Why do we need so many iterations to get to the solution?	4.5	5	Because m and c is strongly correlated
4_1	4_1	values of u_i	1.5	2.5	The number of people and films can be different
4_2	4_2	values of v_j	1.5	2.5	
4_3	4_3	values of f_{ij}	5	5	
4_4	4_4	values of y_{ij}	5	5	
4_5	4_5	Values of s_{ij}	5	5	
5_1	5_1	First part of gradient. Need to put the new gradients into a vector	5	5	
5_2	5_2	Second part of gradient	10	10	
5_3	5_3	So we have full gradient as	5	5	
		Mark from 100	95.5	100	
		Mark from 5	4.775	5	