CROWD COMPUTING – JUST ESTIMATE 02

The professor just now explained the power of crowd, you see crowd is not a bunch of people they are the people who answer my question quora or create articles on Wikipedia which i read how crowd can helpful in many ways. It can help me to find out the number of gems in this jar or help me to estimate or calculate the weight of this bag. You must be wondering how, let me show you. Estimate the number of gems in this jar? One eighty, Two twenty, Four hundred, Around six hundred, Thousand, Five hundred, Three hundred may be, five fifty. It's around fifteen hundred, two thousand, five hundred, five hundred? Ok i expect above five hundred, two hundred and fifty, fifteen hundred ok, two fifty four hundred, one thousand ten, two hundred only two hundred? Two fifty, two hundred, two hundred, two fifty, three hundred, three fifty, two sixty three, two seventy five, three hundred, two fifty, two twenty, one seventy, hundred, seven hundred and twenty, five hundred, six fifty, three hundred probably, one seven eight one, two twenty, seven hundred, what is this all about? Will let you know say two hundred, seven hundred approx, one seventy, five hundred, ok let's say one ninety seven, two fifty, around two hundred, hundred and fifty, two seventy, two thousand two thousand? I think two fifty, hundred and twenty five, three fifty, four fifty, around three twenty, four sixty seven, thousand, three hundred, i will get one after that sure, if you guess it right, ok then two fifty, six hundred, five hundred, one twenty, two fifty, one fifty, four hundred, five hundred, not more than three fifty, four hundred, four hundred? Three hundred, two fifty, and what about you sir three hundred ok hey guys guess what happened? There were actually three seventy five gems in the jar and the crowd guessed it right. i know no bodies guess was exact but if we take the mean of all their guesses it is actually coming out to be close to three seventy five wanna know how? Let me show you. As you all know we conducted an experiment which numbers of people were asked about the number of gems or candies in the jar, all though nobody guessed it right but still we got the right answer, how? Let us find out. This kind of experiment was first conducted by Francis Galton in a country fare, ox weight judging it competition was organised in which around eight hundred tickets were issued, every participant were asked about the weight of the ox. The actual weight of the ox was one one nine eight lbs and if we take the median of all the estimates it came out to be one two zero seven lbs as you can see one two zero seven lbs is very much near to one one nine eight lbs this is the wisdom of crowd, this is the part of crowd. So now i would like to explain the reason behind it why does wisdom of crowd prove out to be very useful here? So let us look at this picture we have actual value ok, some people under estimate the actual value of the ox and some people over estimate the actual value of the ox. Ok the under estimation part and the over estimation part it actually cancels out so what is obtained at the end is the actual value. This is the same principal that is playing behind me. For example we have given data comprising of minus three minus two minus one zero one two three here we have median as zero for example zero is the actual value here and some people guessed it one some people guessed it two and some people guessed it three and some people under

estimated the value like minus one minus two minus three ok nut if we take the difference of the values of the median here will get minus one, one, minus two, two, minus three and three and then we take the summation of all these values in at the end get the median of the data, this is the same principal that is playing behind the wisdom of crowds and this is the same principal that is playing behind the median of the data ok, the under estimation part actually cancels the over estimation part and the answer that we got from the wisdom of crowd from many people estimate is actually the actual value of the ox. So as i said over estimation minus under estimation will comes out to be zero so the answer that is obtained from the estimates of the crowd is actually the actual value is the true value of the ox. So what we did in our experiment was we asked people about the number of candies or gems in the jar, in our experiment around seventy five people participated the actual number of gems in the jar were three hundred seventy five the median of the data that is obtained is three hundred and the average of all the estimates that is been obtained is three fifty one so as you can see the median is not giving us the right answer here, even the average the mean of all the estimates is giving us the right answer here so according to the recent studies it has been observed that if we take the other aggregate measures then they can also be prove to be useful in these kinds of experiment i repeat recent studies have shown that if we take the other aggregate measures than these aggregate measure can be prove to be more useful in these kinds of experiment. So in these kinds of experiment you have to calculate the number of aggregate measures but aggregate measures are main you have to calculate median mean and other things so here we calculated the average of all the estimates and that came out to be three fifty one and as you know as you can see three fifty one is close to three seventy five as compare to the median that is three hundred so here we calculated the average of all the estimate and that came out to be near to actual number of gems here we didn't calculate mean as total number of the estimates some of all the estimates divided by total number of the estimates, we didn't calculated mean by this formula what we did was we calculated ten percent trimmed mean, what is ten percent trimmed mean? Let us find out. In ten percent trimmed mean what you have to do is , you have to remove the ten percent smallest and ten percent largest values the sample that has been obtained by this method you have to calculate the mean of the sample obtained, yes here we are using ten percent trimmed mean you can use five percent, eight percent trimmed mean as per your data actually its depends on the data but on our data that we obtained from seventy five people ten percent trimmed mean give us the right answer gave us the answer that was very near to the actual value, so how can we calculate ten percent trimmed mean? First of all you have to remove the ten percent smallest and ten percent largest values, how can you obtained ten percent smallest and ten percent largest values? In this particular thing you have to sort the data what do i mean by the sorting the data? Sorting means arranging the elements in ascending or descending order so if we sort the data, if we arrange the elements in the ascending order it will be easier to calculate the ten percent smallest and ten percent largest values and then you can easily remove them from the sample, after that you have to calculate the mean of the sample that has been obtained after removing the ten percent smallest and ten percent largest values this is how you can calculate trimmed mean. So as i already said this is the wisdom of crowd, this is the power of crowd, these kinds of experiment explains the wisdom of crowds in the better fashion ok so what is wisdom of crowds? And we look out its definition it is actually the collective opinion of

group of individuals, collecting opinion is always better than the expert opinion. Yes collective opinion is always better than the expert opinion; if we take the expert opinion in these kinds of experiments it won't be as accurate as collective opinion, you can do that actually ask the number of gems in the jar from an expert and you can actually ask the number of gems in the jar from crowd. The collective opinion of the crowd is always the better than the expert opinion. There is another example from a day to day life based on wisdom of crowd and that is Wikipedia. Wikipedia is a crowd source here any one can write edit articles as you know anyone can write and edit articles on Wikipedia. There is also an encyclopaedia available online called Britannica, Britannica is curetted by experts and Wikipedia is curetted by people like us by the crowd, if we take the comparative study of Wikipedia and Britannica recent studies recent research has shown that Wikipedia is as good a Britannica, yes this is right, Wikipedia is as good as Britannica isn't it amazing and an encyclopaedia that has been curetted by crowd by the normal people and an encyclopaedia that has been curetted by the experts you can do the comparative analyses you will get to know about it that encyclopaedia that has been curetted by crowd is as good encyclopaedia that has been curetted by the experts. So this is another example of wisdom of crowd.