Once again. Once. Department. In the last lecture we were looking at pictures of Mr. Particularly, we studied the features of this person that our range. Also. Yesterday. So let us briefly, what are these measures of this person? Is very simple measure for measure. That is, if we have been given a data set. Seems like it's. Find experience. Select Xbox all these three types of datasets, data data data scan distinguishes the continuous districts. But this will give you a quick idea about how many years of this person.

So here we have. About the point waiting for you. There's nothing but one or both. Ordered and soft inside. My name is. Now you have the data set is it is? It comes in pairs inside. Did not find. He wants to have that idea. About a point. Now becomes because I have to respect these inquiries. Why not? Just. Smiling, smiling. Are you going? Frequency of the agency. No. Required. In the fall. Thanks. Things. Frequency. In this case, what you do is you will think it's called. Divided. This is

So disappointing. Something. And despite. But you. Now, if you compute this, this is my new website and then I can apply the same formula. That point. Same size. 1. This is getting united in this. Minus. That's awesome. It works really well in some of the cases, but this mean deviation who has some limitations. Discussed the limitations of this. Someone?

So you can find this. Frequency distribution. Somewhat. Microsoft. Modulus. That means no way is. Peace. Always want. From the media. If I take any data to some of the. It's always. Deviations from the community. There is one pattern which is expected to measures of central. Many cases. Jesus. You will not get the service. Where this? People to distribution with high degree of variability distribution. That means yourself. Or something of this sort, and there you will call that. That distribution is a distribution which high degree of. Not a good representative. There is not. Tendency. This case you may face problem. If you are using. About the media. Look up some examples. Major drawback. Thinking. Therefore, it cannot be subjected to any algebraic. You cannot do any calculus on this absolute values.

So it is a drawing for us. If you want to find some concerns of this.

So therefore because of these three recommendations we will we need some major where all these applications can be taken care of. They don't need any such limitations. Well, what about this limitation of absolute values? One of the ideas is if I am writing something like one of one. The raw data. Start settings. The same way. You can change. Without losing the character of the data by quantifying by by using the square which can be subjected to algebraic element.

So that is how we will device or other major devices called. The more square. Which is popularly known. Patience. But for variance we need. To be very specific about this, this in particular when we expect. Ingredients about. My morning. We are always dealing with. We are dealing with. What is this restriction?

So we need to take some forms. Some sense which can be subjected to algebraic.

So we values we have taken As for now, this is very nice and you can do any other. Properly. This. Distribution. What do you guys say?

So mathematically. See.

So if I have data points. Points. Taking that. So. Deviations. Expired. Square something called deviations equal to 1. What do you mean only six part? On the observations, that means that is 1 formation over. Radiance. Associated with this. Suppose my data is measured in the units of centimeters. Something size, size. In my various sequence where will always be measured in terms of Centimeter Square.

So if I want to compare these two values and doesn't make sense.

So if I want to convert this into centimeters, what they will do is I will take a positive square root of. This particular document and take the positives for the same. And this is called standard deviation.

So what we find the term is for standard deviation. Here we are standardizing the units by 1 centimeters. Now this may be in centimeters,

So we have standardized. That's where some of the TV and then we have taken this.

So it is standard deviation. We have already seen how to take variance data. See. Variance?

So what will be the changes? Yes, what will happen? If it is. Say. I'm waiting. I want to write for this. Sigma. And we did. I. Why? Whatever is that square. News. Is defined. Sorry. Take example of completing the variance for each.

So let us take one example where we will.

So in order to compute this, we need to take algorithm. We'll see. Are you going to be the first? Most of that is no major, no other major. Some computing. The data. The diary of the. Bond. Sorry. All this. Xbox.

So everything is. Minus 6. Means that. According to this. Seeing as it's part of the. 106 according to our Formula Sigma. 106 upon the total number of options. .6. Interesting question about this. This formulation Sigma. So. OK. Square. Minus. Saying spots. In this case, what will happen is one or more. Spreads. This summer are you? It's. Yes. James Bond it says. Expired. What is summation over it's saying? If you look at this formula. In some ways I can say what I hate to be equal to some reason. Use that particular formulation as it is exist. Particularly. Yes, this password is a constant.

So ex parte square as it is equal to 1 to one,

So it will become. This is the case my formula becomes. Some reason? What do you want? Excise. Minus. Please. What types of things bars?

So inside. Equal to 1. Big spots. Sometimes if you use this formula, it is computationally simple and you like to variance.

So remember this formula. What we have done is we have given two different formulas. Some reason? I. Minus 6 bars. Somebody said. Same square. Minus. Things spots you see, the difference here? There is an inference of modify index part. But here there is no influence of 1 by year. It is always. All the formulas. Similarly. Document dispute distribution. Which is of the small. Power remains the same.

So square. But this is this particular formulation may be at times difficult to compute. If the values of X&Y. Rocks. Tedious. In that case, we will try to give another formula which will take care of these tedious calculations.

So the idea is. Such uses. The big thing is the problem will come and inspire will come and visit.

So what we will do, we will take the TV stations in such cases. Deviations. 3 point this is just beginning. You know about. Sigma. This is one of all. Summation of. Are you working? Minus. These we can consider. Minus. Deviations from elementary point. Saying if this number is divisible by 1, comma. And we have the right. UI. The same way. See. Types. Since. Voice. Minus. All this.

So I sit there thinking.

So I just tried. What we are saying here. We are just keeping this that's. I have been given certain things. Here. Things. Playing this. Then we said these days are divisible by.

So my warning say. And multiplying by. Execute. By intention.

So what we have done is inside. Play with you. Just. This is the. Formulation. Was Sigma squared? Once Upon. I'm thinking more in that formula. What do you wanna do? It says. Life is. So. Why you weren't born? What our pricing formula. Now I'm just substituting this inside.

So at least one. Minus. If I do. Open this square. +2. Why? These as it is. I will just say. Some of the. Here itself. E. It's. So. I opened it, then I will expand the square and if I expand this question. By these yes. Types. Independent. Solution. Right? One upon you wanna make out. Abortions. About this it is peace in my but I know Sigma. I don't see my wife is nothing but.

So this.

So I'm leaving. On my. This is also the square, and this is also. Square. It's. Find. We need to stop. This is. Yes. Square.

So we should know. It's fine. The voice. Yes. On you would. Now you're comparing these. This is currently gets answer. This is. That's why you are. Do it. We have left. One of all. Square is there and it's square. I want to. Anyways. Wireless once they will take that upon its inside this summer.

So this is nothing. It's just. Minus. Experiment. Go back. We have said to be. That is what we want.

So we started with definition of Sigma squared in terms of exit, which is difficult. Definition of Sigma square. Jumps off the UI. Minus.

So this is the advantage and this is not expired. And it gave us calculation.

So there are two ways to calculate variances.

So first, let's see. They expire. We will proceed with procedure. Non conventional smart. Seeing. Procedure. The frequency. Distribution, you need to compute. Xbox. Build. Why is it? Inside minus X bar. Some. Divide the sum of. Procedure using one example.

So my Xbox is 450. Divided by the total number of observations.

So I don't know. The next step for me is minus X1. The first step is wanted. Minus. Minus. Minus. Yes, no idea say minus. What's the weather? 7 squares things that way. 6. 45 supporting this will give. If this is the case, then I have to just saying is this 754. The total number about generations. .0. Always be positive.

So this is how we compute using our. Now. If we want to use that. I need to give. So that is coming from continuous class. Is the case that. Same procedure will work. And points. Process. Process. Second step. The aviations from that as you saying. That's smart. Steve the TV stations like Glass. What is my? Sizes are. Now. Your name? You want to name them as you want. UI is equal. What is the? Once you're doing this, then the job is very simple and it is. We will just consider five times. With Someone Like You. This step. Quest. That's why you always. Some. Which is. It's. Types. Here is the data that is given. 6. Thing. I mentioned earlier. So. Last name. You can easily see. We want to compute this. The same way as. Avoiding things.

So broadly, looking at this data, I can kiss my main realize somewhere. So I can assume that means to be equal to 55,

So they will kiss the will to be equal. Class size for each class. This is the important step in the entire. If I can do that, then you can see my UI is nothing but minus 3 minus. 0. Do. Metrically, my data is distributed. Now you just don't require names. So it will be. Why does that? The next step is to compute device according to that. So it is. Minus 3 squared, which is 9. Quiet. Let's see. This. Something about. Calculating this. Distorted What is the class size?

So let us. That's you. Now. Inspire you see. Expired. Wipes one bite. Check this file names. By you guys. Upon 60 once you do that, it's gonna be. 25 point. Expired minus expired. His family. Then you just substitute the formula. Using the formula. Some reason? Minus. Square. You know all these totals,

So one thirty 416. Why does face 60? Find this. Positive square which is equal to. 14.9 added successfully. The variance for the given data set with continuous classes. Some students today we have seen this person. Various results of this person. That's all. This will help you and understanding that the spread of the data across the data values. That leads to class. We will see some problems 1 statistic. You see the comprehensive some of the comprehensive programs. You wanna watch?