MAGIC SQUARE: HIT AND TRIAL 04

Ok now we are going to write a programme for matrix square, so what the programme should do? Should take an input n and is the number of elements in magic square since it is a square matrix so the number of elements will become n cross n it will take n and generates the magic square. Now in last video we saw the condition which you can use, we saw the algorithm which we can use to create the magic square, so will use that algorithm to write a programme. So let's start. As i told you it is better to write a whatever programme you are creating whatever logic you are creating in a function so that you can use that function many time rather than just writing in python file its better if you create a function so i will create a function let's def magic square ok, it will take an argument that the numbers of rows or number of columns which is same for a square matrix in magic square. Ok in python i need to define the matrix because the element should be present in the matrix then i can change the elements accordingly so i will define a matrix of size n cross n with initially initial all the elements will be zero all zero so matrix will contain all zero and then as we go as we go down to the algorithm step by step will change the elements from to one from zero to other elements since let's see if there is a three cross three square matrix so elements will be from one to nine. For other it could be different but zero will never come because it will always start from one, so ok let me define the matrix magic square lets see. so for that i need two loops i will write here for i in range three it means it will go from zero to two, zero one two then for j in range again three ok, before that let me define an define a variable named magic square magic square so it is a list i am using it as a matrix inside this first loop i will define a simple list and which i am not keeping anything there which means whenever this loop is, whenever i go inside this loop it will create a new variable, a new list and as soon as this loop gets over it will again go to this loop go inside this and again create a new list l so what i will do inside this j loop ok i will enter the element in l so i will write l dot append, append is to enter the elements in the list so i will append zero so what will happen? See in the first run when the i is zero ok so i become zero so this n is created after this will go inside this loop j loop here j is again becoming zero so for this i am going l dot append zero so first time when j is zero l has element l will contain l will contain zero then it will go back to j, j becomes one j in range only so it will again append zero so l will contain zero comma zero. Again it will go back to loop this j becomes two, two is within the range so again l dot append will run so it will become zero so l will contain zero comma zero comma zero next time j becomes three, three is not in range because three is out of index of range three so this loop will break so it will go to i, now i becomes one and i am not doing anything it so as soon as this before ending the i loop i have to append this l which l i got that is zero comma zero comma zero in this magic square so what i will do after this loop but inside the i loop i will magic square dot append l so what it will do as soon as the j loop gets over the l whatever value i have in l after the j loop i will apply it in the magic square. It will become a first loop similarly when the second run of ith loop again i will create a second row of using the j loop and i will append it in here magic square ok so the magic square will contain a contain the matrix containing zero only zero so i can print this so in order to print this i will just copy this ok you can simply

comment this using the yeah you can simply comment this. So what i will do i will print here print magic square i comma j ok let me delete this ok lets run this. So nothing is there because i have to call this function so magic square n is what in range i have to put n because we are making it generalise programme not for three so for n i will put three here and it is showing like this zero zero zero zero zero zero zero zero zero and i want it to be in a matrix only so for that in python three what you can do, you can write comma end is equal to like this it will join the i mean print statement always prints one and then by default it keeps new line character till the end so i will put this it will create, it will print the whole everything i this loop in one line so in this i will write magic square three ok so what i am getting here i am getting everything so i just write a print statement here print and i am not print anything great, so what's this print statement does it print everything in one line that's why i am getting everything in one line but after this loop if i just print nothing, nothing means new line character is always there so after this loop after the first loop it will print a new line character and next i will get the next row i mean in next print i will get the next row so this is how so our matrix is good everything is fine perfect i am getting my three cross three matrix now this is the way this is the conventional way of creating the matrix python is a very cool way of creating such things, the best thing about python is that you can write loop inside a list also suppose i can write magic is equal to this is the matrix i want to create at inside this i will write the loop for i in range three it means for i in range three and i will put here zero it means it means for i in range three put zero in this list so it will create, it will create a list of zero three zeros in a list because i in range put three times i have to put zero in this list now same thing i will use like this for i in range put zero and put this list three times, i want this list three times, three times like this so that i can get my magic square for that put this list for j in range three it means that for j in range three put this list inside this list awesome i got my magic square. Great so you can try this i have already written this loop, these loop for creating my simple square matrix of zero elements.