CONCLUSION

It is time for us to give our final concluding remarks for our course we have studied more than thirty awesome ideas in computing and we have shown you how to code it from scratch. We started off from a very basic tool called the scratch tool we taught you how to program without even going to a proper programming standard programming environment just by drag and drop technique you try developing some applications some straight forward applications with that we learnt how looping structure works, how variables works, how if then works and then we graduated to python we saw some thirty cool ideas implemented all of them so the computing aspects of this the science aspect of it i need to tell you all one important. Programming is one subject where there is no starting point and there is no ending point you just get in your swim and you keep swimming and keep learning better and better skills now you observed that programming pursue involves some standard understanding some standard raised ways of talking ways to your computer but then the way in which you talk the logic that you use is a different kind of skills correct so you observed that some longest programming exercises required you to think very logically right let's say for example if you are asked to add two matrices that's going to be quite easy but we are asked to multiply two matrices you see that's going to be non trevion. So it is not just about python or c or c plus plus java or any other programming language it's also about this knack to use the programming language properly. A good analogy would be you know good English but are you a good writer, let's say let's go one step further and say if you are a good writer can you be a good poet? You see all these things require a different set of skills and some sort of a unique talent which is not actually born it can be made. So single most important tip i can give you people is continue to program all the thirty plus joys that we formulated where the joys that we thought would be fun programming you probably not see a single text book which covers all these things in fact many topics you may not even see any web reference to it. So there is no beginning there is no end you should just start programming as much as possible. Now given that we have we have completed this course successfully i would like to give you a tip on what's next? There are certain aspects of programming certain aspects of computing that we did not cover because that was not in our motive, our motive was inspire you to get into programming and do a good deal of it now let me enumerate a few things that you can look at even that you have the knack and experience of going one step ahead and read something advanced. There is this notion of what you called the object oriented programming approach where people realise that programming the day from top to bottom simply writing your code may not always work. We must use a very object oriented approach by that we mean it is not just variables at the low end level you see a bunch of variables as an entity this is based understood when you start getting into this topic called oops which was mainly popularised from the point when c plus plus was developed which was a pre curser which was C, C plus plus had an advantage from C that you could use the type of programming that was easy on the programmers mind so what you can now do is to go ahead and understand how to program using object oriented approach in python. Second point we covered many APIs but APIs are actually limitless when it comes to python so whenever you want to do something you will find an API for it there are several standard APIs most of it actually we are covered in our course but there are still a lot more you can explore which you

should that's my second tip to you. A third possible point of improvement could be one can learn python for web programming that was not covered in the course but you now have all the skill set to go ahead and understand how web programming can be done using python. Fourth tip would be if you are a scientist a programming language like python will be indispensable again there are several APIs for a particular type of science you can explore it and use python for scientific computing and fifth tip which is in fact the most important one is when it comes to programming your programming requirements are generally not one or two pages long just the way our joys were in our course they were all very short codes if you develop a big application it might run through several thousands of lines, developed together by several people so what we did not cover is how to manage a big project in python. Anyway that's my fifth tip you may want to look at it. It's pretty easy now that you know most of what entails python. Ok let us now address what is it one can do after learning a course like joy of computing as i said if you are a scientist you can try to implement your knowledge and expertises in python in solving your scientific problems let's say you are fun loving person who would like to develop some unique applications as part of your Btech project or whatever you are studying or even if you are a graduate and you want to develop an application which you are very passionate about seeing the final product you can go ahead and develop an applications of your choice. Another important tip would be the world is converging towards highly collaborative environments you can think of joining one of the open source projects on Github and contribute to the software development. They will be developing a package together collaboratively dozens of them will be sitting and writing the code you can also give in your little piece there. And finally yes of course you will have an added advantage over others when you say you have tried answering several random questions using python and hence you are fit to be a software developer right now please note to be a good software engineer developer all you need is good amount of confidence and good amount of logical thinking ability and we strongly believe that we have given this things to you. Sky is the limit please go explore and as and always this course might have a sequel will keep you all posted there is a possibility that will come out with joc two point o where will talk about a little advanced topics.