Floating Point Operations | Shell Scripting

This is a multipart blog article series where I am going to explain the concepts of shell scripting and how to write a shell script in Linux, UNIX or Mac based systems. You can also follow this tutorial blog using windows but for that you have to install a bash from.

We cannot solve floating point numbers using simple arithmetic operations. So in this article we will see that how we solve floating point numbers.

We cannot perform arithmetic operations on decimal using previous methods, it will give an error. For that we use “bc” which stands for basic calculator.

* We can use bc command in this way “echo “20.5+5” | bc”
* But there is a problem with division that it will not show the values after decimal. So to remove that we have to define a variable scale like this “echo “scale=2;20.5+5” | bc”
* Here we can see the value till 2 decimal places.
* We can also solve/calculate square root of some number and can also solve trigonometric equations using the bc keyword.
* If you want to use variables then the syntax becomes “echo “$<variable\_name1>+<variable\_name2>” | bc”. Here num1 and num2 are variables which have some value in it.
* We can calculate the square root of a number in this way “echo “scale=2;sqrt($<variable\_name>)” | bc -l”
* To calculate we have to use a function called sqrt and pass the variable name to it, whose square root we want to calculate.
* But sqrt function is a math function and we need to call. To call math function we use “-l” command.
* We can also calculate power of any number like this “echo “scale=2;3^3” | bc -l”
* You can get more information about bc command by just typing “man bc” in terminal.

So this was all about performing arithmetic operations on floating point numbers. Hope you liked it and learned something new form it.

If you have any doubt, question, quires related to this topic or just want to share something with me, than please feel free to contact me.