Shell commands::

Alternatives command :: Filename in shell ----pass arguments

./show.sh file1.txt

1. How to use argument in a script ?

cat copy.sh  
#!/bin/bash  
cp $1 $2

1. How to calculate number of passed arguments ?

echo "The number of aruments is : $#"

1. Script name :: echo "this is script name : $0"
2. Print third element of all lines :: awk '{print $3}' CRND0103-2000-NC\_Asheville\_13\_S.txt
3. How to get 2nd item of all line if first item is find:: awk '{ if ($1 == "FIND") print $2}'
4. How to debug bash script:: #!/bin/bash –xv
5. Give an example how to write function::

function\_name () {

list of commands

1. #!/bin/bash

#Define your function here

Hello () {

echo "Hello World $1 $2"

return 10

}

#Invoke your function

Hello Saurabh Kumar

#retrun value

ret=$?

1. echo "$ret"

#!/bin/bash

# first function

first\_fun () {

echo "this is the first function"

second\_func

}

second\_func () {

echo "this is the second function"

}

# calling function

### How to add string to string ?

Strings :: a=2

a+=4

echo $a

24

### Integerss::

echo $a

24

((a+=12))

echo $a

36

Array ::

echo ${a[@]}

36

a+=(18)

echo ${a[@]}

36 18

echo ${a[0]}

36

echo ${a[1]}

18

<https://www.geeksforgeeks.org/array-basics-shell-scripting-set-2-using-loops/>

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$ arr=(1 12 31 4 5)

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$ echo ${arr[0]}

1

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$ echo ${arr[2]}

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1. If file exists

if [ -f sumcheck.sh ]; then echo "exits"; fi

$ if [ -f test.txt ]; then echo "exits"; fi

exits

### Write down syntax for all loops in shell scripting ?

**for loop :**

for i in $( ls ); do  
echo item: $i  
done

for i in $(ls); do echo item:$i; done

**while loop :**

#!/bin/bash  
COUNTER=0  
while [ $COUNTER -lt 10 ]; do  
echo The counter is $COUNTER  
let COUNTER=COUNTER+1  
done

**until loop :**

#!/bin/bash  
COUNTER=20  
until [ $COUNTER -lt 10 ]; do  
echo COUNTER $COUNTER  
let COUNTER-=1  
done

### What it means by #!/bin/sh or #!/bin/bash at beginning of every script ?

That line tells which shell to use. #!/bin/bash script to execute using /bin/bash. In case of python script there there will be #!/usr/bin/python

### How to get 10th line from the text file?

### head -10 file|tail -1

### What would be the output of command: [ -z "" ] && echo 0 || echo 1

### The right side of && will only be evaluated if the exit status of the left side is zero. || is the opposite: it will evaluate the right side only if the left side exit status is nonzero. You can consider [ ... ] to be a program with a return value. If the test inside evaluates to true, it returns zero; it returns nonzero otherwise.

### Export keyword :: export in sh and related shells (such as bash), marks an environment variable to be exported to child-processes, so that the child inherits them.

1. How to run a script in background :: nohup script.sh &

Or disown in the background

1. Chmod -500 makes script executable for owner
2. > output stream in a file
3. Diff between & and && --& run script in background && first excutes the right side script /command
4. Difference between single quote and double quote :: when we donot need to execute variables for values we use single and when we need to assign variables the values we use double

If you're referring to what happens when you echo something, the single quotes will literally echo what you have between them, while the double quotes will evaluate variables between them and output the value of the variable.

1. Stdin ::process to read your inputs
2. Stdout: process writes to this file
3. Stderr: process writes errors to this file
4. How to redirect stdout and stderr to a file :: file.txt 2>&1
5. How to get part of string variable with echo command only

Echo ${variable :X:Y}

1. # Get first two characters

${var:0:2}

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$ var="test"

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$ ${var:0:2}

# Remove shortest rear-anchored pattern - this one would give the directory name of a file, for example

${var%/\*}

# Remove longest rear-anchored pattern

${var%%/\*}

# Remove shortest front-anchored pattern - this in particular removes a leading slash

${var#/}

# Remove longest front-anchored pattern - this would remove all but the base name of a file given its path

# Replace a by b

${var//a/b}

${var##\*/}

### Cut command

### <http://www.thegeekstuff.com/2013/06/cut-command-examples/>

### Sort

### <http://www.computerhope.com/unix/usort.htm>

### Uniq

### <http://www.computerhope.com/unix/uuniq.htm>

### Grep

### <http://www.thegeekstuff.com/2009/03/15-practical-unix-grep-command-examples>

### grep -o -n this check.txt | cut -d':' -f1- --output-delimiter=$'\t'^C

### How to change standard field separator to ":" in bash shell ?

### IFS=":"

### How to get variable length ?

${#variable}

### How to print last 5 characters of variable ?

echo ${variable: -5}

### What difference between ${variable:-10} and ${variable: -10} ?

${variable:-10} - gives 10 if variable was not assigned before  
${variable: -10} - gives last 10 symbols of variable

### How to substitute part of string with echo command only?

echo ${variable//pattern/replacement}

### Which command replaces string to uppercase ?

$ echo "$a" | tr '[:upper:]' '[:lower:]'

hi all

### [AWK](http://en.wikipedia.org/wiki/AWK)

$ echo "$a" | awk '{print tolower($0)}'

hi all

### 39. How to count local accounts ?

### wc -l /etc/passwd|cut -d" " -f1 or cat /etc/passwd|wc –l

### Count the number of words:

echo "$input" | wc –w

set ${string}  
echo $#

### How to list files where second letter is a or b ?

### ls -d ?[ab]\*

### How to remove all spaces from the string ?

### echo $string|tr -d " "

### Rewrite the command to print the sentence and converting variable to plural: item="car"; echo "I like $item" ?

### item="car"; echo "I like ${item}s"

### HIVE

### Partion in hive :: mainly intended to quick turn around of queires

### In case of embedded hive,we cannot have multiple users having to use single metastore.

### What is hcatalog and how to use it?

### Hcatalog is a table and storage management tool .in mr we specify input and output format :HcatInputformat and Hcatoutputformat

### In pig we specify ,hcatloader and hcatstorer

### If hive is installed as server ,how can applications connect ot it::

### Thrift server :: hive code written in other languages

### JDBC server and ODBC drivers

### Is multiline comments supported by hive::

### No

### What is Serde in hive?

### Serialiser and deserializer ,hive uses serde to write data in tbales and read from them.

### Classes used to read and write hdfs files by hive : Textinputformat/hivenokeytextoutputfomrat

### Sequenceinputformat/sequenceoutputformat

### Serde classes used by hive:: MetadataTypedColumnsetserde::write csv ,comma separated,tab separated.

### Thriftserde:for thrift serialized objects

### Dynamicsserde:same as thrift but schema can be given at run time

### Query processor in hive:: implements processing framework to map hive query to mapreduce job and implements execution time framework to run jobs in order of execution

### Object inspector:: analyses internal structure of row object as well as individual columns

### Types of tables in hive::external and managed tables

### What kind of datawarehouse application is suitable for hive:: not frequently changing data and static data,slow response time

### Does hive suits oltp or olap::closer to olap big database for insights

### Does hive support record level update delete and insert statement ::no but it can use case statement and built in functions to do same

### How to change a column datatype in hive::

### Alter table t1 change empid empid bigint;

### Copy colums of a hive table in a file:: hive –S –e “describe tablename;” | awk –F”” {print 1} > output

### Rename a table alter table rename to newtable

### How to change settings in hive while in session::set hive.enforce.bucketing=true;

### How to print headers in output:: set hive.cli.print.header=true

### How to get detail description of a table :describe extended table;

### How to access sub directores in hive

### hive> Set mapred.input.dir.recursive=true;

### hive> Set hive.mapred.supports.subdirectories=true;

### COMplex data types::

### CREATE TABLE EMPDETAIL (Cid bigint,cname struct<fname:string,lname:string>, cadd struct<city:string,state:string>, age array<smallint>, feel map<string,boolean> ) row format delimited FIELDS TERMINATED BY '|' collection items terminated by ',' map keys terminated by ':' lines terminated by '\n' stored as textfile;

### How to skip header lines in hive ::

### CREATE EXTERNAL TABLE userdata (

### name STRING,

### job STRING,

### dob STRING,

### id INT,

### salary INT)

### ROW FORMAT DELIMITED FIELDS TERMINATED BY ‘ ‘ STORED AS TEXTFILE

### LOCATION ‘/user/data’

### TBLPROPERTIES("skip.header.line.count"="3”);

### 24 :: remove double quotes hive ::

CREATE TABLE Table(A varchar(50),B varchar(50),C varchar(50))

ROW FORMAT SERDE 'org.apache.hadoop.hive.serde2.OpenCSVSerde'

WITH SERDEPROPERTIES

(

"separatorChar" = ";",

"quoteChar" = "\""

)

STORED AS TEXTFILE;

CREATE EXTERNAL TABLE source( a string, b String, c String) ROW FORMAT DELIMITED FIELDS TERMINATED BY '\;' LOCATION 'xyz';

CREATE TABLE destination AS SELECT REGEXP\_REPLACE(a,'"',''), REGEXP\_REPLACE(b,'"',''), CAST ( REGEXP\_REPLACE(c,'"','') AS BIGINT) FROM source;