[Lecture 3: if Statement; Testing Conditions; Redirection](http://czegel.com/seneca/unx510-dps918/lectures/Lecture3.html)

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| file | Code | Result |
| 3.1 | if cd $1  then  echo "Current directory has been changed to $PWD"  fi | hhuang66@matrix:~/DPS918/Lecture3> 3.1  Current directory has bee changed to /home/hhuang66 |
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| 3.2 | if cd $1  then  echo "Current directory has been changed to $PWD"  else  echo "Current directory is $PWD, could not be changed to $1"  fi | hhuang66@matrix:~/DPS918/Lecture3> 3.1  Current directory has bee changed to /home/hhuang66 |
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| 3.3 | if grep "Lamborghini" $1  then  echo "We have at least one Lamborghini on the lot, hooray!"  else if grep "Mercedes" $1  then  echo "We have at least one Mercedes on the lot, yippee!"  else if grep "Toyota" $1  then  echo "We have at least one Toyota on the lot, whoopie!"  else if grep "Fiat" $1  then  echo "We have at least one Fiat on the lot, too bad!"  else  echo "What happened to all our cars?"  fi  fi  fi  fi  if grep "Lamborghini" $1  then  echo "We have at least one Lamborghini on the lot, hooray!"  elif grep "Mercedes" $1  then  echo "We have at least one Mercedes on the lot, yippee!"  elif grep "Toyota" $1  then  echo "We have at least one Toyota on the lot, whoopie!"  elif grep "Fiat" $1  then  echo "We have at least one Fiat on the lot, too bad!"  else  echo "What happened to all our cars?"  fi | No happen |
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| 3.43.4 | if test $1 = "-l"  then  echo "A long listing will be produced:"  fi  ls $1 | hhuang66@matrix:~/DPS918/Lecture3> 3.4  ./3.4: line 1: test: =: unary operator expected  3.1 3.2 3.3 3.4 |
| 3.5 | if [ $1 = "-l" ]  then  echo "A long listing will be produced:"  fi  ls $1 | hhuang66@matrix:~/DPS918/Lecture3> 3.5  ./3.5: line 1: [: =: unary operator expected  3.1 3.2 3.3 3.4 3.5 |
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| 3.6 | hhuang66@matrix:~/DPS918/Lecture3> vi cars  test 3.6  grep "$1" cars  if [ $? = 0 ]  then  echo "We have at least one $1 on the lot"  fi | hhuang66@matrix:~/DPS918/Lecture3> 3.6  test 3.6  We have at least one on the lot |
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| 3.7 | if grep "$1" cars  then  echo "We have at least one $1 on the lot"  fi | hhuang66@matrix:~/DPS918/Lecture3> 3.7  test 3.6  We have at least one on the lot |
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| 3.8 | if [ $# != 3 ]  then  echo "This script requires 3 arguments"  exit 1  fi | hhuang66@matrix:~/DPS918/Lecture3> 3.8  This script require 3 arguments |
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| 3.9 | if [ ! -r "$1" ]  then  echo "File $1 cannot be read"  exit 1  fi | hhuang66@matrix:~/DPS918/Lecture3> 3.9  File cannot be read |
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| 3.10 | if [ ! -d "$1" ]  then  echo "$1 is not a directory"  exit 1  fi | hhuang66@matrix:~/DPS918/Lecture3> 3.10  is not a directory |
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| 3.11 | salary=5  if [ $salary -gt 4 ]  then  echo "salary is great than 4"  fi | hhuang66@matrix:~/DPS918/Lecture3> 3.11  salary is great than 4 |
|  |  |  |
| 3.12 | salary=5  if test $salary -gt 4  then  echo "salary is great than 4"  fi | hhuang66@matrix:~/DPS918/Lecture3> 3.12  salary is great than 4 |
|  |  |  |
| 3.13 | if [ ! -d "$1" -o ! -w "$1" -o ! -x "$1" ]  then  echo "Cannot delete a filename from $1"  exit 1  fi | hhuang66@matrix:~/DPS918/Lecture3> 3.13  Cannot delete a filename from |
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| 3.14 | if [[ $1 > $2 || $2 > $3 ]]  then  echo "Arguments are not in correct sort order"  exit 1  fi | hhuang66@matrix:~/DPS918/Lecture3> 3.14 a b c  hhuang66@matrix:~/DPS918/Lecture3> 3.14 c b a  Arguments are not in correct sort order |
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| 3.15 | if [[ -z $1 || $1 =~ [^0-9] ]]  then  echo "First argument is not numeric"  exit 1  fi | hhuang66@matrix:~/DPS918/Lecture3> 3.15 a  First argument is not numeric  hhuang66@matrix:~/DPS918/Lecture3> 3.15 1 |
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| 3.16 | if [ -z "$1" -o "$(echo $1 | grep "[^0-9]")" != "" ]  then  echo "First argument is not numeric"  exit 1  fi | hhuang66@matrix:~/DPS918/Lecture3> 3.16 1  hhuang66@matrix:~/DPS918/Lecture3> 3.16 a  First argument is not numeric |
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| 3.17 | if (( $1 > $2 || $1 <= 0 ))  then  echo "Range of first two arguments is incorrect"  exit 1 | hhuang66@matrix:~/DPS918/Lecture3> 3.17 2 1  Range of first two arguments is incorrect  hhuang66@matrix:~/DPS918/Lecture3> 3.17 -1 -2  Range of first two arguments is incorrect  hhuang66@matrix:~/DPS918/Lecture3> 3.17 -1 2  Range of first two arguments is incorrect |
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| 3.17.1 |  | hhuang66@matrix:~/DPS918/Lecture3> tr '[a-z]' '[A-Z]' < cars  TEST 3.6  hhuang66@matrix:~/DPS918/Lecture3> cat < cars  test 3.6 |
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| 3.17.2 |  | hhuang66@matrix:~/DPS918/Lecture3> cat << +  > This technique is often used  > to display a long error message  > or a selection menu. Also, it  > allows a small file to be internal  > within a script, instead of using  > a separate external file.  > +  This technique is often used  to display a long error message  or a selection menu. Also, it  allows a small file to be internal  within a script, instead of using  a separate external file. |
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| 3.17.3 | cat cars > demofile | hhuang66@matrix:~/DPS918/Lecture3> cat cars > demofile  hhuang66@matrix:~/DPS918/Lecture3> cat demofile  test 3.6  hhuang66@matrix:~/DPS918/Lecture3> cat cars  test 3.6 |
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| 3.17.4 |  | hhuang66@matrix:~/DPS918/Lecture3> grep ford demofile > demofile  hhuang66@matrix:~/DPS918/Lecture3> cat demofile |
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|  |  | hhuang66@matrix:~/DPS918/Lecture3> echo "This line will be appended" >> demofile  hhuang66@matrix:~/DPS918/Lecture3> cat demofile  This line will be appended |
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|  |  | hhuang66@matrix:~/DPS918/Lecture3> cat demofile  This line will be appended  hhuang66@matrix:~/DPS918/Lecture3> cat /dev/null > demofile  hhuang66@matrix:~/DPS918/Lecture3> cat demofile  hhuang66@matrix:~/DPS918/Lecture3> |
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|  |  | hhuang66@matrix:~/DPS918/Lecture3> cat missingfile 2> demofile  hhuang66@matrix:~/DPS918/Lecture3> cat demofile  cat: missingfile: No such file or directory  hhuang66@matrix:~/DPS918/Lecture3> cat missingfile  cat: missingfile: No such file or directory |
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|  |  | hhuang66@matrix:~/DPS918/Lecture3> ls  3.1 3.11 3.13 3.15 3.17 3.3 3.5 3.7 3.9 demofile  3.10 3.12 3.14 3.16 3.2 3.4 3.6 3.8 cars  hhuang66@matrix:~/DPS918/Lecture3> cat /dev/null > file1  hhuang66@matrix:~/DPS918/Lecture3> ls  3.1 3.11 3.13 3.15 3.17 3.3 3.5 3.7 3.9 demofile  3.10 3.12 3.14 3.16 3.2 3.4 3.6 3.8 cars file1 |
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|  |  | hhuang66@matrix:~/DPS918/Lecture3> echo "This is a message"  This is a message  hhuang66@matrix:~/DPS918/Lecture3> echo "This is a message" >&2  This is a message |
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|  |  | hhuang66@matrix:~/DPS918/Lecture3> cat cars > outputfile 2> errorfile  hhuang66@matrix:~/DPS918/Lecture3> ls  3.1 3.11 3.13 3.15 3.17 3.3 3.5 3.7 3.9 demofile file1  3.10 3.12 3.14 3.16 3.2 3.4 3.6 3.8 cars errorfile outputfile  h |
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| 3.18 | echo -n "Please enter an integer: " > /dev/tty  read number  if [ -z "$number" ] || echo $number | grep "[^0-9]" > /dev/null  then  echo "Sorry, '$number' is not a valid integer" >&2  else  echo "Thank you!"  fi | hhuang66@matrix:~/DPS918/Lecture3> 3.18  Please enter an integer: 100  Thank you!  hhuang66@matrix:~/DPS918/Lecture3> 3.18  Please enter an integer: abc  Sorry, 'abc' is not a valid integer  hhuang66@matrix:~/DPS918/Lecture3> |
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|  |  | hhuang66@matrix:~/DPS918/Lecture3> exec 4>myFiles  hhuang66@matrix:~/DPS918/Lecture3> ls  3.1 3.12 3.15 3.18 3.4 3.7 cars file1  3.10 3.13 3.16 3.2 3.5 3.8 demofile myFiles  3.11 3.14 3.17 3.3 3.6 3.9 errorfile outputfile  hhuang66@matrix:~/DPS918/Lecture3> echo "Here are my current files" >&4  hhuang66@matrix:~/DPS918/Lecture3> ls  3.1 3.12 3.15 3.18 3.4 3.7 cars file1  3.10 3.13 3.16 3.2 3.5 3.8 demofile myFiles  3.11 3.14 3.17 3.3 3.6 3.9 errorfile outputfile  hhuang66@matrix:~/DPS918/Lecture3> cat myFiles  Here are my current files  hhuang66@matrix:~/DPS918/Lecture3> ls -l >&4  hhuang66@matrix:~/DPS918/Lecture3> exec 4>&-  hhuang66@matrix:~/DPS918/Lecture3> ls  3.1 3.12 3.15 3.18 3.4 3.7 cars file1  3.10 3.13 3.16 3.2 3.5 3.8 demofile myFiles  3.11 3.14 3.17 3.3 3.6 3.9 errorfile outputfile  hhuang66@matrix:~/DPS918/Lecture3> cat myFiles  Here are my current files  total 88  -rwx--x--x 1 hhuang66 users 70 May 28 14:36 3.1  -rwx------ 1 hhuang66 users 67 May 28 15:52 3.10  -rwx------ 1 hhuang66 users 73 May 28 15:58 3.11  -rwx------ 1 hhuang66 users 76 May 28 16:01 3.12  -rwx------ 1 hhuang66 users 104 May 28 16:14 3.13  -rwx------ 1 hhuang66 users 96 May 28 16:18 3.14  -rwx------ 1 hhuang66 users 89 May 28 16:22 3.15  -rwx------ 1 hhuang66 users 110 May 28 16:28 3.16  -rwx------ 1 hhuang66 users 97 May 28 16:40 3.17  -rwx------ 1 hhuang66 users 211 May 29 00:11 3.18  -rwx--x--x 1 hhuang66 users 137 May 28 14:49 3.2  -rwx--x--x 1 hhuang66 users 951 May 28 14:59 3.3  -rwx--x--x 1 hhuang66 users 75 May 28 15:08 3.4  -rwx--x--x 1 hhuang66 users 74 May 28 15:16 3.5  -rwx--x--x 1 hhuang66 users 82 May 28 15:29 3.6  -rwx--x--x 1 hhuang66 users 72 May 28 15:34 3.7  -rwx--x--x 1 hhuang66 users 75 May 28 15:39 3.8  -rwx------ 1 hhuang66 users 68 May 28 15:46 3.9  -rw------- 1 hhuang66 users 9 May 28 15:29 cars  -rw------- 1 hhuang66 users 9 May 29 00:07 demofile  -rw------- 1 hhuang66 users 0 May 29 00:04 errorfile  -rw------- 1 hhuang66 users 0 May 28 23:42 file1  -rw------- 1 hhuang66 users 26 May 29 00:27 myFiles  -rw------- 1 hhuang66 users 9 May 29 00:04 outputfile  hhuang66@matrix:~/DPS918/Lecture3> |
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|  |  | https://www.tutorialspoint.com/unix/unix-special-variables.htm |
| 1 | grep | The **grep command in UNIX** is a **command** line utility for printing lines that match a pattern. It can be used to find text in a file and search a directory structure of files recursively. |
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| 2 | $1 | These variables correspond to the arguments with which a script was invoked. Here n is a positive decimal number corresponding to the position of an argument (the first argument is **$1**, the second argument is $2, and so on). |
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