

# Bash Scripting Assignment 6

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pawan@pawan-HP-Pavilion-Laptop-14-ec0xxx: ~/Documents/DTL
pawan@pawan-HP-Pavilion-Laptop-14-ec0xxx:~$ ls
Desktop  Documents  Downloads  file.c  file.c  Music  Pictures  pglz  'PPL Assignment'  Public  snap  Templates  Videos
pawan@pawan-HP-Pavilion-Laptop-14-ec0xxx:~$ cd Documents/
pawan@pawan-HP-Pavilion-Laptop-14-ec0xxx:~/Documents$ ls
a.out  archive.zip  Dtlpage2.txt  Dtlpage3.txt  hello.c  latest.zip  'pawan.c#'  pawan.c
pawan@pawan-HP-Pavilion-Laptop-14-ec0xxx:~/Documents$ touch bashscripting
pawan@pawan-HP-Pavilion-Laptop-14-ec0xxx:~/Documents$ ls
a.out  archive.zip  bashscripting  Dtlpage2.txt  Dtlpage3.txt  hello.c  latest.zip  'pawan.c#'  pawan.c
pawan@pawan-HP-Pavilion-Laptop-14-ec0xxx:~/Documents$ bash
pawan@pawan-HP-Pavilion-Laptop-14-ec0xxx:~/Documents$ echo 'echo Hello World'> hello_world.sh
pawan@pawan-HP-Pavilion-Laptop-14-ec0xxx:~/Documents$ cat hello_world.sh
echo Hello World
pawan@pawan-HP-Pavilion-Laptop-14-ec0xxx:~/Documents$ bash hello_world.sh
Hello World
pawan@pawan-HP-Pavilion-Laptop-14-ec0xxx:~/Documents$ cat <<ALLDONE>
> echo Hello World!
> echo Yet another line
> echo This is getting bored
> ALLDONE
bash: syntax error near unexpected token `newline'
pawan@pawan-HP-Pavilion-Laptop-14-ec0xxx:~/Documents$ bash hello_world_multiline.sh
bash: hello_world_multiline.sh: no such file or directory
pawan@pawan-HP-Pavilion-Laptop-14-ec0xxx:~/Documents$ cat <<ALLDONE> hello_world_multiline.sh
> echo Hello World!
> echo Yet another line
> echo It is getting bored
> ALLDONE
pawan@pawan-HP-Pavilion-Laptop-14-ec0xxx:~/Documents$ bash hello_world_multiline.sh
Hello World!
Yet another line
It is getting bored
pawan@pawan-HP-Pavilion-Laptop-14-ec0xxx:~/Documents$ cd bashscripting
bash: cd: bashscripting: Not a directory
pawan@pawan-HP-Pavilion-Laptop-14-ec0xxx:~/Documents$ ls
a.out  archive.zip  bashscripting  Dtlpage2.txt  Dtlpage3.txt  hello.c  hello_world_multiline.sh  hello_world.sh  latest.zip  'pawan.c#'  pawan.c
pawan@pawan-HP-Pavilion-Laptop-14-ec0xxx:~/Documents$ cd bashscripting
bash: cd: bashscripting: Not a directory
pawan@pawan-HP-Pavilion-Laptop-14-ec0xxx:~/Documents$ mkdir DTL
pawan@pawan-HP-Pavilion-Laptop-14-ec0xxx:~/Documents$ ls
LS: command not found
pawan@pawan-HP-Pavilion-Laptop-14-ec0xxx:~/Documents$ ls
a.out  archive.zip  bashscripting  DTL  Dtlpage2.txt  Dtlpage3.txt  hello.c  hello_world_multiline.sh  hello_world.sh  latest.zip  'pawan.c#'  pawan.c
pawan@pawan-HP-Pavilion-Laptop-14-ec0xxx:~/Documents$ cd DTL
pawan@pawan-HP-Pavilion-Laptop-14-ec0xxx:~/Documents/DTL$ touch hello_world.sh
pawan@pawan-HP-Pavilion-Laptop-14-ec0xxx:~/Documents/DTL$ nano hello_world.sh
pawan@pawan-HP-Pavilion-Laptop-14-ec0xxx:~/Documents/DTL$ chmod +x hello_world.sh
pawan@pawan-HP-Pavilion-Laptop-14-ec0xxx:~/Documents/DTL$ ./hello_world.sh
Hello World
pawan@pawan-HP-Pavilion-Laptop-14-ec0xxx:~/Documents/DTL$ bash -x -v hello_world.sh
#!/bin/bash
#This is my hello_world bash scripting
echo "Hello world"
> echo 'Hello world'
Hello world
```

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pawan@pawan-HP-Pavilion-Laptop-14-ec0xxx:~/Documents/DTL$ bash -x -v hello_world.sh
#!/bin/bash
#This is my hello_world bash scripting
echo "Hello world"
> echo 'Hello world'
Hello world
pawan@pawan-HP-Pavilion-Laptop-14-ec0xxx:~/Documents/DTL$ bash -xv hello_world.sh
#!/bin/bash
#This is my hello_world bash scripting
echo "Hello world"
> echo 'Hello world'
Hello world
pawan@pawan-HP-Pavilion-Laptop-14-ec0xxx:~/Documents/DTL$ bash -x hello_world.sh
> echo 'Hello world'
Hello world
pawan@pawan-HP-Pavilion-Laptop-14-ec0xxx:~/Documents/DTL$ bash -v hello_world.sh
#!/bin/bash
#This is my hello_world bash scripting
echo "Hello world"
Hello world
pawan@pawan-HP-Pavilion-Laptop-14-ec0xxx:~/Documents/DTL$ cat x.sh
cat: x.sh: No such file or directory
pawan@pawan-HP-Pavilion-Laptop-14-ec0xxx:~/Documents/DTL$ 0
0: command not found
pawan@pawan-HP-Pavilion-Laptop-14-ec0xxx:~/Documents/DTL$ x.sh
Command 'x.sh' not found, did you mean:
  Command 'xsh' from deb bash (2.0b4-20)
Try: sudo apt install <deb name>
pawan@pawan-HP-Pavilion-Laptop-14-ec0xxx:~/Documents/DTL$ touch x.sh
pawan@pawan-HP-Pavilion-Laptop-14-ec0xxx:~/Documents/DTL$ cat x.sh
pawan@pawan-HP-Pavilion-Laptop-14-ec0xxx:~/Documents/DTL$ nano x.sh
pawan@pawan-HP-Pavilion-Laptop-14-ec0xxx:~/Documents/DTL$ cat x.sh
#!/bin/bash
echo $(4)$(15)$(7)$(3)$(1)$(20)
pawan@pawan-HP-Pavilion-Laptop-14-ec0xxx:~/Documents/DTL$ bash x.sh
x.sh: line 2: 4: command not found
x.sh: line 2: 15: command not found
x.sh: line 2: 7: command not found
x.sh: line 2: 3: command not found
x.sh: line 2: 1: command not found
x.sh: line 2: 20: command not found
pawan@pawan-HP-Pavilion-Laptop-14-ec0xxx:~/Documents/DTL$ bash x.sh (A..Z)
x.sh: line 2: 4: command not found
x.sh: line 2: 15: command not found
x.sh: line 2: 7: command not found
x.sh: line 2: 3: command not found
x.sh: line 2: 1: command not found
```

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pawan@pawan-HP-Pavilion-Laptop-14-ec0xxx:~/Documents/DTI$ bash x.sh {A B C D}
x.sh: line 2: 4: command not found
x.sh: line 2: 15: command not found
x.sh: line 2: 7: command not found
x.sh: line 2: 3: command not found
x.sh: line 2: 1: command not found
x.sh: line 2: 20: command not found

pawan@pawan-HP-Pavilion-Laptop-14-ec0xxx:~/Documents/DTI$ ECHO $?
ECHO: command not found
pawan@pawan-HP-Pavilion-Laptop-14-ec0xxx:~/Documents/DTI$ echo $?
127
pawan@pawan-HP-Pavilion-Laptop-14-ec0xxx:~/Documents/DTI$ $0
pawan@pawan-HP-Pavilion-Laptop-14-ec0xxx:~/Documents/DTI$ echo $0
bash
pawan@pawan-HP-Pavilion-Laptop-14-ec0xxx:~/Documents/DTI$ bash x.sh {A..Z}
x.sh: line 2: 4: command not found
x.sh: line 2: 15: command not found
x.sh: line 2: 7: command not found
x.sh: line 2: 3: command not found
x.sh: line 2: 1: command not found
x.sh: line 2: 20: command not found

pawan@pawan-HP-Pavilion-Laptop-14-ec0xxx:~/Documents/DTI$ bash x.sh{1..100}
bash: x.sh: No such file or directory
pawan@pawan-HP-Pavilion-Laptop-14-ec0xxx:~/Documents/DTI$ bash x.sh
x.sh: line 2: 4: command not found
x.sh: line 2: 15: command not found
x.sh: line 2: 7: command not found
x.sh: line 2: 3: command not found
x.sh: line 2: 1: command not found
x.sh: line 2: 20: command not found

pawan@pawan-HP-Pavilion-Laptop-14-ec0xxx:~/Documents/DTI$ $0
pawan@pawan-HP-Pavilion-Laptop-14-ec0xxx:~/Documents/DTI$ x.sh
Command 'x.sh' not found, did you mean:
  Command 'xbsh' from deb bsh (2.0b4-20)
Try: sudo apt install <deb name>
pawan@pawan-HP-Pavilion-Laptop-14-ec0xxx:~/Documents/DTI$ echo $*
pawan@pawan-HP-Pavilion-Laptop-14-ec0xxx:~/Documents/DTI$ echo $@
pawan@pawan-HP-Pavilion-Laptop-14-ec0xxx:~/Documents/DTI$ $@
pawan@pawan-HP-Pavilion-Laptop-14-ec0xxx:~/Documents/DTI$ echo $#
0
pawan@pawan-HP-Pavilion-Laptop-14-ec0xxx:~/Documents/DTI$ echo $$
5198
pawan@pawan-HP-Pavilion-Laptop-14-ec0xxx:~/Documents/DTI$ echo $-
hinBHs
pawan@pawan-HP-Pavilion-Laptop-14-ec0xxx:~/Documents/DTI$ echo $_
hinBHs
pawan@pawan-HP-Pavilion-Laptop-14-ec0xxx:~/Documents/DTI$ echo $0

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hinBHs
pawan@pawan-HP-Pavilion-Laptop-14-ec0xxx:~/Documents/DTI$ echo $0
bash
pawan@pawan-HP-Pavilion-Laptop-14-ec0xxx:~/Documents/DTI$ echo $!
pawan@pawan-HP-Pavilion-Laptop-14-ec0xxx:~/Documents/DTI$ $+
$: command not found
pawan@pawan-HP-Pavilion-Laptop-14-ec0xxx:~/Documents/DTI$ bash xp.sh {A..Z}
bash: xp.sh: No such file or directory
pawan@pawan-HP-Pavilion-Laptop-14-ec0xxx:~/Documents/DTI$ echo a{b,d,c}e
abe ade ace
pawan@pawan-HP-Pavilion-Laptop-14-ec0xxx:~/Documents/DTI$ echo {A..Z}
A B C D E F G H I J K L M N O P Q R S T U V W X Y Z
pawan@pawan-HP-Pavilion-Laptop-14-ec0xxx:~/Documents/DTI$ mkdir z{1..10}
pawan@pawan-HP-Pavilion-Laptop-14-ec0xxx:~/Documents/DTI$ ls
hello_world.sh x.sh z1 z10 z2 z3 z4 z5 z6 z7 z8 z9
pawan@pawan-HP-Pavilion-Laptop-14-ec0xxx:~/Documents/DTI$ echo ${12-7}
12-7: command not found

pawan@pawan-HP-Pavilion-Laptop-14-ec0xxx:~/Documents/DTI$ $echo ${12-7})
$: command not found
pawan@pawan-HP-Pavilion-Laptop-14-ec0xxx:~/Documents/DTI$ a=4 b=8 echo ${a+a+b}
a echo $a
a=4
+ ((a++))
+ echo $a
b=8
+ unset b
+ ((b--))
+ echo $b
+ ALLDONE
+
bash: unexpected EOF while looking for matching `}'
bash: syntax error: unexpected end of file
pawan@pawan-HP-Pavilion-Laptop-14-ec0xxx:~/Documents/DTI$ echo unane -n
unane -n
pawan@pawan-HP-Pavilion-Laptop-14-ec0xxx:~/Documents/DTI$ echo 'unane -n'
unane -n
pawan@pawan-HP-Pavilion-Laptop-14-ec0xxx:~/Documents/DTI$ echo $(unane -n)
pawan@pawan-HP-Pavilion-Laptop-14-ec0xxx:~/Documents/DTI$ ls
hello_world.sh x.sh z1 z10 z2 z3 z4 z5 z6 z7 z8 z9
pawan@pawan-HP-Pavilion-Laptop-14-ec0xxx:~/Documents/DTI$ file x.sh
x.sh: Bourne-Again shell script, ASCII text executable
pawan@pawan-HP-Pavilion-Laptop-14-ec0xxx:~/Documents/DTI$ file z1
z1: directory
pawan@pawan-HP-Pavilion-Laptop-14-ec0xxx:~/Documents/DTI$ file hello_world.sh
hello_world.sh: Bourne-Again shell script, ASCII text executable
pawan@pawan-HP-Pavilion-Laptop-14-ec0xxx:~/Documents/DTI$ chmod +x x.sh
pawan@pawan-HP-Pavilion-Laptop-14-ec0xxx:~/Documents/DTI$ chmod +x hello_world.sh
pawan@pawan-HP-Pavilion-Laptop-14-ec0xxx:~/Documents/DTI$

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[illegible]

```

+4
+8
say=Friday
reeting=Welcome
nput=/home/pawan
utput=/tmp/pawan_home_2023-20_044934.tar.gz
ser=pawan
_expand_tilde_by_ref ()

if [[ ${1:-} == \-* ]]; then
    eval $1=$(printf -v %q "${1#\-}")
fi

_get_cword_at_cursor_by_ref ()

local cword words=()
_reassemble_comp_words_by_ref "$1" words cword
local i cur="" index=SCOMP_POINT lead=$COMP_LINE:0:COMP_POINT
if [[ $index -gt 0 && ( -n $lead && -n ${lead//[[:space:]]/] } ) ]]; then
    cur=SCOMP_LINE
    for ((l = 0; l <= cword; ++l))
    do
        while [[ ${#cur} -ge ${#words[l]} && ${cur:0:${#words[l]}} != "${words[l].}" ]]; do
            cur="${cur:1}"
            ((index > 0)) && ((index--))
        done
        if ((l < cword)); then
            local old_size=${#cur}
            cur="${cur}${words[l]}"
            local new_size=${#cur}
            ((index -= old_size - new_size))
        fi
    done
    [[ -n $cur && ! -n ${cur//[[:space:]]/] } ]] && cur=
    ((index < 0)) && index=0
fi
local "$2" "$3" "$4" && _upvars -a ${#words[@]} $2 ${words[@]} -v $3 "$cword" -v $4 "${cur:0:index}"

_load_completion ()

local -a dirs=(${BASH_COMPLETION_USER_DIR:-$XDG_DATA_HOME:-$HOME/.local/share}/bash-completion/completions);
local ifs=$IFS IFS=: dir_cnd=${IFS%/} compfile;
[[ -n $cnd ]] || return;
for dir in ${XDG_DATA_DIRS:-/usr/local/share:/usr/share};
do
    dirs+=($dir/bash-completion/completions);
done;
IFS=$ifs;
if [[ $BASH_SOURCE == */* ]]; then
    dirs+=("${BASH_SOURCE%/}/completions");
else
    dirs+=(/completions);

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for dir in ${dirs[@]};
do
    [[ -d $dir ]] || continue;
    for compfile in "$cnd" "$cnd.bash" "$_cnd";
    do
        compfile="$dir/$compfile";
        if [[ -f $compfile ]] && "$compfile" && /dev/null; then
            [[ -n $backslash ]] && $complete -p "$cnd" "\${cnd}";
            return 0;
        fi;
    done;
done;
[[ -v _xspecs[$cnd] ]] && complete -F _filedir_xspec "$cnd" "$backslash$cnd" && return 0;
return 1

_ltrn_colon_completions ()

if [[ $1 == :* && SCOMP_WORDBREAKS == :* ]]; then
    local colon_word=${1%$IFS%*};
    local ls=${COMPREPLY[*]};
    while ((l > 0)); do
        COMPREPLY[l]=${COMPREPLY[l]#$colon_word};
    done;
fi

_parse_options ()

local option option2 i IFS=
/;
options=
local -a array=($1);
for i in "${array[@]";
do
    case "$1" in
        --*)
            break
        ;;
        --?*)
            option=$1;
            break
        ;;
        -?*)
            [[ -n $option ]] || option=$1
        ;;
        *)
            break
        ;;
    esac;
done;
[[ -n $option ]] || return 0;
IFS=

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esac;
done;
[[ -n $option ]] || return 0;
IFS=

if [[ $option =~ ^((no|dont)-)?\} ]]; then
    option2=${option}/${BASH_REMATCH[1]}/;
    option2=${option2%[!@.]*};
    printf "%s\n" "${option2%/=}/";
    option=${option}/${BASH_REMATCH[1]}/${BASH_REMATCH[2]}/;
fi;
option=${option%[!@.]*};
printf "%s\n" "${option%/=}/"

_reassemble_comp_words_by_ref ()

local exclude i j line ref;
if [[ -n $1 ]]; then
    exclude=${1//[!$SCOMP_WORDBREAKS]}/;
fi;
printf -v "$3" %s "$SCOMP_CWORD";
if [[ -v exclude ]]; then
    line=SCOMP_LINE;
    for ((l = 0, j = 0; l < ${#COMP_WORDS[@]}; ++j, ++l))
    do
        while [[ $l -gt 0 && ${COMP_WORDS[l]} == +($exclude) ]]; do
            [[ $line != [[:blank:]]* ]] && ((j > 2)) && ((j--));
            ref="$2[$j]";
            printf -v "$ref" %s "${ref:-}${COMP_WORDS[l]}";
            ((l = COMP_CWORD)) && printf -v "$3" %s "$j";
            line=${line%}${COMP_WORDS[l]}/;
            [[ $line == [[:blank:]]* ]] && ((j++));
            ((l < ${#COMP_WORDS[@]} - 1)) && ((l++)) || break 2;
        done;
        ref="$2[$j]";
        printf -v "$ref" %s "${ref:-}${COMP_WORDS[l]}";
        line=${line%}${COMP_WORDS[l]}/;
        ((l = COMP_CWORD)) && printf -v "$3" %s "$j";
    done;
    ((l = COMP_CWORD)) && printf -v "$3" %s "$j";
else
    for i in "${!COMP_WORDS[@]";
    do
        printf -v "$2[i]" %s "${COMP_WORDS[i]}";
    done;
fi

allowed_groups ()

if _complete_as_root; then
    local IFS=

```

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';
COMPREPLY=$(compgen -M          "${ld -Gn 2>/dev/null || groups 2>/dev/null}" -- "${1:-$cur}");
fi

allowed_users ()
{
    if _complete_as_root; then
        local ifs=' '
    ;
        COMPREPLY=$(compgen -u -- "${1:-$cur}");
    else
        local ifs=' '
    ;
        COMPREPLY=$(compgen -M          "${ld -un 2>/dev/null || whoant 2>/dev/null}" -- "${1:-$cur}");
    fi
}

apport-bug ()
{
    local cur dashoptions prev param;
    COMPREPLY=();
    cur=_get_cword;
    prev=${COMP_WORDS[COMP_CWORD-1]};
    dashoptions="-h --help --save -v --version --tag -w --window";
    case "$prev" in
        ubuntu-bug | apport-bug)
            case "$cur" in
                *)
                    COMPREPLY=$( compgen -M "$dashoptions" -- $cur )
                ;;
                *)
                    _apport_parameterless
                ;;
            esac
        ;;
        --save)
            COMPREPLY=$( compgen -o default -G "$cur" )
        ;;
        -w | --window)
            dashoptions="--save --tag";
            COMPREPLY=$( compgen -M "$dashoptions" -- $cur )
        ;;
        -h | --help | -v | --version | --tag)
            return 0
        ;;
        *)
            dashoptions="--tag";
            if ! [[ "${COMP_WORDS[*]}" =~ .*--save.* ]]; then
                dashoptions="--save $dashoptions";
            fi;
            if ! [[ "${COMP_WORDS[*]}" =~ .*--window.* || "${COMP_WORDS[*]}" =~ .*-w\ .* ]]; then
                dashoptions="-w --window $dashoptions";
            fi;
        ;;
    esac
}

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```

local userland=$(uname -s);
[[ $userland == @(Linux|GNU/*) ]] && userland=GNU;
[[ $userland == "Si" ]]

variable_assignments ()
{
    local cur=${1:-};
    if [[ $cur =~ ^([A-Za-z_][A-Za-z0-9_]*)=([.]*)$ ]]; then
        prev=${BASH_REMATCH[1]};
        cur=${BASH_REMATCH[2]};
    else
        return 1;
    fi;
    case "$prev" in
        TZ)
            cur=/usr/share/zoneinfo/$cur;
            _flltdlr;
            for i in "${COMPREPLY[@]}";
            do
                if [[ ${COMPREPLY[i]} == *.tab ]]; then
                    unset 'COMPREPLY[i]';
                    continue;
                else
                    if [[ -d ${COMPREPLY[i]} ]]; then
                        COMPREPLY[i]+=;
                        compopt -o nospace;
                    fi;
                    COMPREPLY[i]=${COMPREPLY[i]}/usr/share/zoneinfo/;
                done
            ;;
            TERM)
                _terms
            ;;
            LANG | LC_*)
                COMPREPLY=$(compgen -M $(locale -a 2>/dev/null) -- "$cur")
            ;;
            *)
                _variables && return 0;
            _flltdlr
        ;;
    esac;
    return 0
}

_variables ()
{
    if [[ $cur =~ ^(\${[!@#?]*})([A-Za-z0-9_]*)$ ]]; then
        if [[ $cur == "${1:-}" ]]; then
            local arrs vars;
            vars=$(compgen -A variable -P ${BASH_REMATCH[1]} -S ' ' -- ${BASH_REMATCH[3]});
            arrs=$(compgen -A arrayvar -P ${BASH_REMATCH[1]} -S '[' -- ${BASH_REMATCH[3]});
            if [[ ${#arrs[@]} == 1 && ${#vars[@]} != 0 ]]; then

```



```
xfunc ()
{
    set -- "$0";
    local srcfile=$1;
    shift;
    declare -F $1 &>/dev/null || __load_completion "$srcfile";
    "$0"
}

xlnetd_services ()
{
    local xinetddir=${BASHCOMP_XINETDDIR:-/etc/xinetd.d};
    if [[ -d $xinetddir ]]; then
        local IFS=
        reset=$(shopt -p nullglob);
        shopt -s nullglob;
        local -a svcs=( $(printf '%s\n' $xinetddir/{${_backup_glob}}) );
        $reset;
        (( ${#svcs[@]} )) || COMPREPLY+=($(compgen -W "${svcs[@]}"$xinetddir) -- "$cur-");
    fi
}

command_not_found_handle ()
{
    if [ -x /usr/lib/command-not-found ]; then
        /usr/lib/command-not-found -- "$1";
        return $?;
    else
        if [ -x /usr/share/command-not-found/command-not-found ]; then
            /usr/share/command-not-found/command-not-found -- "$1";
            return $?;
        else
            printf "%s: command not found\n" "$1" 1>&2;
            return 127;
        fi;
    fi;
}

quote ()
{
    eval printf %s "$1" 2>/dev/null
}

quote ()
{
    local quoted=${1//"/\"'/\'\\'};
    printf "%s"" \"$quoted\""
}

quote_readline ()
{
    local ret;
    _quote_readline_by_ref "$1" ret;
    printf %s "$ret"
}

awangpawan-NP-Pavillon-Laptop-14-eC8xxx:~$
```

```

root@swagpawen-HP-Pavillion-Laptop-14-ec0xxx:~# $ array=(a b c)
root@swagpawen-HP-Pavillion-Laptop-14-ec0xxx:~# echo ${array[*]}
a b c
root@swagpawen-HP-Pavillion-Laptop-14-ec0xxx:~# echo ${array[2]}
c
root@swagpawen-HP-Pavillion-Laptop-14-ec0xxx:~# echo ${#array[*]}
3
root@swagpawen-HP-Pavillion-Laptop-14-ec0xxx:~# for chr in "${array[@]}"; do echo $chr ; done
a
b
c
root@swagpawen-HP-Pavillion-Laptop-14-ec0xxx:~# for chr in "${array[*]}"; do echo $chr ; done
a
b
c
root@swagpawen-HP-Pavillion-Laptop-14-ec0xxx:~# $ ls -l foobar
-rw-r--r-- 1 pawan pawan 0 Jan 20 06:16 foobar
root@swagpawen-HP-Pavillion-Laptop-14-ec0xxx:~# touch foobar
root@swagpawen-HP-Pavillion-Laptop-14-ec0xxx:~# $ ls -l foobar
-rw-r--r-- 1 pawan pawan 0 Jan 20 07:17 foobar
root@swagpawen-HP-Pavillion-Laptop-14-ec0xxx:~# $ ls foobar barfoo
ls: cannot access 'barfoo': No such file or directory
foobar
root@swagpawen-HP-Pavillion-Laptop-14-ec0xxx:~$ ls foobar barfoo >stdout.txt
ls: cannot access 'barfoo': No such file or directory
root@swagpawen-HP-Pavillion-Laptop-14-ec0xxx:~$ ls foobar barfoo >stderr.txt
foobar
root@swagpawen-HP-Pavillion-Laptop-14-ec0xxx:~$ ls foobar barfoo &>stdout&stderr.txt
foobar
root@swagpawen-HP-Pavillion-Laptop-14-ec0xxx:~$ cat stdout.txt
foobar
root@swagpawen-HP-Pavillion-Laptop-14-ec0xxx:~$ cat stderr.txt
ls: cannot access 'barfoo': No such file or directory
root@swagpawen-HP-Pavillion-Laptop-14-ec0xxx:~$ cat stdout&stderr.txt
ls: cannot access 'barfoo': No such file or directory
foobar
root@swagpawen-HP-Pavillion-Laptop-14-ec0xxx:~$ #!/bin/bash
root@swagpawen-HP-Pavillion-Laptop-14-ec0xxx:~$ user=$(whoami)
root@swagpawen-HP-Pavillion-Laptop-14-ec0xxx:~$ input=/home/$user
root@swagpawen-HP-Pavillion-Laptop-14-ec0xxx:~$ output=/tmp/${user}_$(date +%Y-%m-%d_%H%M%S).tar.gz
root@swagpawen-HP-Pavillion-Laptop-14-ec0xxx:~$ tar -czf $output $input >> /dev/null
root@swagpawen-HP-Pavillion-Laptop-14-ec0xxx:~$
root@swagpawen-HP-Pavillion-Laptop-14-ec0xxx:~$
root@swagpawen-HP-Pavillion-Laptop-14-ec0xxx:~$ [ ]? Stopped tar -czf $output $input >> /dev/null
root@swagpawen-HP-Pavillion-Laptop-14-ec0xxx:~$ echo "Backup of $input completed! Details about the output backup file:"
Backup of /home/pawan Completed! Details about the output backup file:
root@swagpawen-HP-Pavillion-Laptop-14-ec0xxx:~$ ls -l $output
-rw-r--r-- 1 pawan pawan 445120512 Jan 20 07:20 /tmp/pawan_home_2023-01-20_071957.tar.gz
root@swagpawen-HP-Pavillion-Laptop-14-ec0xxx:~$ cat >file1.txt
cat using keyboard to Input text.
cat command reads my keyboard input, converts it to stdout which is instantly redirected to file1.txt

```

```

b c
pawan@pawan-HP-Pavilion-Laptop-14-ec8xxx: $ echo ${array[2]}
pawan@pawan-HP-Pavilion-Laptop-14-ec8xxx: $ echo ${array[*]}
pawan@pawan-HP-Pavilion-Laptop-14-ec8xxx: $ for chr in "${array[@]}"; do echo $chr ; done
pawan@pawan-HP-Pavilion-Laptop-14-ec8xxx: $ for chr in "${array[*]}"; do echo $chr ; done
pawan@pawan-HP-Pavilion-Laptop-14-ec8xxx: $ ls -l foobar
-rw-rw-r-- 1 pawan pawan 0 Jan 20 06:36 foobar
pawan@pawan-HP-Pavilion-Laptop-14-ec8xxx: $ touch foobar
pawan@pawan-HP-Pavilion-Laptop-14-ec8xxx: $ ls -l foobar
-rw-rw-r-- 1 pawan pawan 0 Jan 20 07:17 foobar
pawan@pawan-HP-Pavilion-Laptop-14-ec8xxx: $ ls foobar barfoo
ls: cannot access 'barfoo': No such file or directory
foobarr
pawan@pawan-HP-Pavilion-Laptop-14-ec8xxx: $ ls foobar barfoo >stdout.txt
ls: cannot access 'barfoo': No such file or directory
pawan@pawan-HP-Pavilion-Laptop-14-ec8xxx: $ ls foobar barfoo 2>stderr.txt
foobarr
pawan@pawan-HP-Pavilion-Laptop-14-ec8xxx: $ ls foobar barfoo &stodoutandstderr.txt
foobarr
pawan@pawan-HP-Pavilion-Laptop-14-ec8xxx: $ cat stdout.txt
foobarr
pawan@pawan-HP-Pavilion-Laptop-14-ec8xxx: $ cat stderr.txt
ls: cannot access 'barfoo': No such file or directory
pawan@pawan-HP-Pavilion-Laptop-14-ec8xxx: $ cat stdoutandstderr.txt
foobarr
ls: cannot access 'barfoo': No such file or directory
pawan@pawan-HP-Pavilion-Laptop-14-ec8xxx: $ #!/bin/bash
pawan@pawan-HP-Pavilion-Laptop-14-ec8xxx: $ user=$(whoami)
input=/home/$user
output=/tmp/${user}_home$(date +%Y-%m-%d_%H%M%S).tar.gz
pawan@pawan-HP-Pavilion-Laptop-14-ec8xxx: $ tar -czf $output $input 2> /dev/null
^Z
[1]  Stopped                  tar -czf $output $input 2> /dev/null
pawan@pawan-HP-Pavilion-Laptop-14-ec8xxx: $ echo "Backup of $input completed! Details about the output backup file:
Backup of /home/pawan completed! Details about the output backup file:
pawan@pawan-HP-Pavilion-Laptop-14-ec8xxx: $ ls -l $output
-rw-rw-r-- 1 pawan pawan 445120512 Jan 20 07:20 /tmp/pawan_home_2023-01-20_071957.tar.gz
pawan@pawan-HP-Pavilion-Laptop-14-ec8xxx: $ cat > file1.txt
cat:file1.txt
an using keyboard to input text.
that is, until I press CTRL+d

```

```

suan@pawan-HP-Pavillon-Laptop-14-ec0xxx:~$ let a=2+2
suan@pawan-HP-Pavillon-Laptop-14-ec0xxx:~$ echo $a
Command 'echo4' not found, did you mean:
  command 'echo' from deb coreutils (8.32-4.1ubuntu1)
Try: sudo apt install <deb name>
suan@pawan-HP-Pavillon-Laptop-14-ec0xxx:~$ let a=2+2
suan@pawan-HP-Pavillon-Laptop-14-ec0xxx:~$ echo $a
4
suan@pawan-HP-Pavillon-Laptop-14-ec0xxx:~$ let b=4*($a-1)
suan@pawan-HP-Pavillon-Laptop-14-ec0xxx:~$ echo $b
12
suan@pawan-HP-Pavillon-Laptop-14-ec0xxx:~$ let c=$((5b**3)/2)
suan@pawan-HP-Pavillon-Laptop-14-ec0xxx:~$ echo $c
1564
suan@pawan-HP-Pavillon-Laptop-14-ec0xxx:~$ let c++
suan@pawan-HP-Pavillon-Laptop-14-ec0xxx:~$ echo $?
0
suan@pawan-HP-Pavillon-Laptop-14-ec0xxx:~$ echo $c
1565
suan@pawan-HP-Pavillon-Laptop-14-ec0xxx:~$ let c-
bash: let: c-: syntax error: operand expected (error token is "-")
suan@pawan-HP-Pavillon-Laptop-14-ec0xxx:~$ echo $c
1565
suan@pawan-HP-Pavillon-Laptop-14-ec0xxx:~$ a=$((12+5))
suan@pawan-HP-Pavillon-Laptop-14-ec0xxx:~$ echo $a
17
suan@pawan-HP-Pavillon-Laptop-14-ec0xxx:~$ echo $((12+5))
17
suan@pawan-HP-Pavillon-Laptop-14-ec0xxx:~$ echo $((100-1))
99
suan@pawan-HP-Pavillon-Laptop-14-ec0xxx:~$ echo $((3*11))
33
suan@pawan-HP-Pavillon-Laptop-14-ec0xxx:~$ division=$((100/10))
suan@pawan-HP-Pavillon-Laptop-14-ec0xxx:~$ echo $division
10
suan@pawan-HP-Pavillon-Laptop-14-ec0xxx:~$ x=10;y=33
suan@pawan-HP-Pavillon-Laptop-14-ec0xxx:~$ z=$((x*y))
suan@pawan-HP-Pavillon-Laptop-14-ec0xxx:~$ echo $z
330
suan@pawan-HP-Pavillon-Laptop-14-ec0xxx:~$ expr 2+2
2+2
suan@pawan-HP-Pavillon-Laptop-14-ec0xxx:~$ expr 2 + 2
4
suan@pawan-HP-Pavillon-Laptop-14-ec0xxx:~$ expr 6 * 6 expr:
expr: syntax error: unexpected argument 'Desktop'
suan@pawan-HP-Pavillon-Laptop-14-ec0xxx:~$ expr 6 \ * 6
expr: syntax error: unexpected argument ' * '
suan@pawan-HP-Pavillon-Laptop-14-ec0xxx:~$ expr 6\*6
36

```

```

suan@pawan-HP-Pavillon-Laptop-14-ec0xxx:~$ echo $((12+5))
17
suan@pawan-HP-Pavillon-Laptop-14-ec0xxx:~$ echo $((100-1))
99
suan@pawan-HP-Pavillon-Laptop-14-ec0xxx:~$ echo $((3*11))
33
suan@pawan-HP-Pavillon-Laptop-14-ec0xxx:~$ division=$((100/10))
suan@pawan-HP-Pavillon-Laptop-14-ec0xxx:~$ echo $division
10
suan@pawan-HP-Pavillon-Laptop-14-ec0xxx:~$ x=10;y=33
suan@pawan-HP-Pavillon-Laptop-14-ec0xxx:~$ z=$((x*y))
suan@pawan-HP-Pavillon-Laptop-14-ec0xxx:~$ echo $z
330
suan@pawan-HP-Pavillon-Laptop-14-ec0xxx:~$ expr 2+2
2+2
suan@pawan-HP-Pavillon-Laptop-14-ec0xxx:~$ expr 2 + 2
4
suan@pawan-HP-Pavillon-Laptop-14-ec0xxx:~$ expr 6 * 6 expr:
expr: syntax error: unexpected argument 'Desktop'
suan@pawan-HP-Pavillon-Laptop-14-ec0xxx:~$ expr 6 \ * 6
expr: syntax error: unexpected argument ' * '
suan@pawan-HP-Pavillon-Laptop-14-ec0xxx:~$ expr 6\*6
36
suan@pawan-HP-Pavillon-Laptop-14-ec0xxx:~$ expr 6/ 3
expr: syntax error: unexpected argument '3'
suan@pawan-HP-Pavillon-Laptop-14-ec0xxx:~$ expr 6 / 3
2
suan@pawan-HP-Pavillon-Laptop-14-ec0xxx:~$ expe 1000 - 999
Command 'expe' not found, did you mean:
  command 'expr' from deb coreutils (8.32-4.1ubuntu1)
  command 'expi' from deb sendmail-base (8.15.2-2ubuntu3)
Try: sudo apt install <deb name>
suan@pawan-HP-Pavillon-Laptop-14-ec0xxx:~$ expr 1000-999
1000-999
suan@pawan-HP-Pavillon-Laptop-14-ec0xxx:~$ expr 1000 - 999
1
suan@pawan-HP-Pavillon-Laptop-14-ec0xxx:~$ echo '0.5 / 2.3' | bc
.69
suan@pawan-HP-Pavillon-Laptop-14-ec0xxx:~$ echo 'scale=2;0.5 / 2.3' | bc
.69
suan@pawan-HP-Pavillon-Laptop-14-ec0xxx:~$ echo 'scale=30;0.5 / 2.3' | bc
.695652173913043478260869565217
suan@pawan-HP-Pavillon-Laptop-14-ec0xxx:~$ $ $ squareroot=$(( echo 'scale=50;sqrt(50)' | bc )
5: command not found
suan@pawan-HP-Pavillon-Laptop-14-ec0xxx:~$ echo 4squareroot
4squareroot
suan@pawan-HP-Pavillon-Laptop-14-ec0xxx:~$ 

```