String Manipulation ????

????

```
my_string="abhishek"
echo "length is ${#my_string}"
```

Using expr

```
str="my string"
length=$(expr length "$str")
echo "Length of my string is $length"
```

Using awk

```
echo "my string" | awk '{print length}'
```

Using wc

```
str="my string"
length=$(echo -n "my string" | wc -m)
echo "Length of my string is $length"
```

????

Using wildcards

```
#!/bin/bash


STR='GNU/Linux is an operating system'
SUB='Linux'
if [[ "$STR" == *"$SUB"* ]]; then
  echo "It's there."
fi
```

Using case

```
#!/bin/bash

STR='GNU/Linux is an operating system'
SUB='Linux'

case $STR in

  *"$SUB"*)
    echo -n "It's there."
    ;;
esac
```

Using Regex

```
#!/bin/bash

STR='GNU/Linux is an operating system'
SUB='Linux'

if [[ "$STR" =~ .*"$SUB".* ]]; then
  echo "It's there."
fi
```

Using Grep

```
#!/bin/bash

STR='GNU/Linux is an operating system'
SUB='Linux'

if grep -q "$SUB" <<< "$STR"; then
  echo "It's there"
fi
```

????

```
str1="hand"
str2="book"
str3=$str1$str2
```

????

```
foss="Fedora is a free operating system"
echo ${foss:0:6}
```

```
_admin_ip="202.54.1.33|MUM_VPN_GATEWAY 23.1.2.3|DEL_VPN_GATEWAY 13.1.2.3|SG_VPN_GATEWAY"
for e in $_admin_ip
do
   ufw allow from "${e%%|*}" to any port 22 proto tcp comment 'Open SSH port for ${e##*|}'
done
```

????

```
foss="Fedora is a free operating system"
echo ${foss/Fedora/Ubuntu}
```

Summary: String Manipulation and Expanding Variables

`${parameter:-defaultValue}`	Get default shell variables value
`${parameter:=defaultValue}`	Set default shell variables value
`${parameter:?"Error Message"}`	Display an error message if parameter is not set
`${#var}`	Find the length of the string
`${var%pattern}`	Remove from shortest rear (end) pattern
`${var%%pattern}`	Remove from longest rear (end) pattern
`${var:num1:num2}`	Substring
`${var#pattern}`	Remove from shortest front pattern
`${var##pattern}`	Remove from longest front pattern
`${var/pattern/string}`	Find and replace (only replace first occurrence)
`${var//pattern/string}` echo "${PATH//:/$'\n'}"	Find and replace all occurrences
`${!prefix*}`	Expands to the names of variables whose names begin with prefix.
`${var,}` `${var,pattern}`	Convert first character to lowercase.
`${var,,}` `${var,,pattern}`	Convert all characters to lowercase.
`${var^}` `${var^pattern}`	Convert first character to uppercase.

`${var^^}` `${var^^pattern}`	Convert all character to uppercase.

Cheatsheet: String Manipulation

bash_string.jpeg Image not found or type unknown

String To Integer

```
# $((string))
sum=$((3+6))
echo $sum

a=11
b=3
c=$(($a+$b))
echo $c
```

Alternate method: expr

> Note that it is not a “native” Bash procedure, as you need to have `coreutils` installed (by default on Ubuntu) as a separate package.

```
a=5; b=3; c=2; d=1
expr $a + $b \* $c - $d
```

????????? .XXX

```
# Operator "#" means "delete from the left, to the first case of what follows."
x="This is my test string."
echo ${x#* }

is my test string.

# Operator "##" means "delete from the left, to the last case of what follows."
x="This is my test string."
echo ${x##* }

string.
```

```
# Operator "%" means "delete from the right, to the first case of what follows."
x="This is my test string."
echo ${x% *}

This is my test

# Operator "%%" means "delete from the right, to the last case of what follows."
x="This is my test string."
$ echo ${x%% *}

This
```

Revision #15
Created 26 August 2020 11:52:57 by Admin
Updated 14 February 2023 15:44:56 by Admin