

# Basics of Shell Scripting

Talk to a Teacher Project

<http://spoken-tutorial.org>

National Mission on Education through ICT

<http://www.sakshat.ac.in>

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IIT Bombay

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# Learning Objectives



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- ▶ **System variables**



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- ▶ **System variables**
- ▶ **User defined variables**



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- ▶ System variables
- ▶ User defined variables
- ▶ **Accepting user input via keyboard**



# Prerequisite



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- ▶ You should be familiar with Linux Operating System



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- ▶ You should be familiar with Linux Operating System
- ▶ If not, for relevant tutorials please visit <http://spoken-tutorial.org>





# System Requirements



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- ▶ **Ubuntu Linux 12.04 OS**



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- ▶ **GNU Bash version 4.1.10**



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- ▶ **Ubuntu Linux 12.04 OS**
- ▶ **GNU Bash version 4.1.10**
- ▶ **GNU Bash version 4 or above is recommended for practice**



# Variables

- ▶ **Bash variables provide temporary storage for information**



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- ▶ Can be used within the lifespan of the program



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- ▶ **Two types of variables**



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  - ▶ **System variables**





# Variables

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- ▶ Can be used within the lifespan of the program
- ▶ Two types of variables
  - ▶ System variables
  - ▶ User defined variables



# System Variables



# System Variables

- ▶ **Created and maintained by Linux Bash Shell**



# System Variables

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- ▶ **Defined by Capital letters**



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  - ▶ **BASH\_VERSION**



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# System Variables

- ▶ Created and maintained by Linux Bash Shell
- ▶ Defined by Capital letters
- ▶ Commonly used **system variables** are
  - ▶ BASH\_VERSION
  - ▶ HOSTNAME
  - ▶ HOME etc





# User Defined Variables



# User Defined Variables

- ▶ Created and maintained by users



# User Defined Variables

- ▶ Created and maintained by users
- ▶ Avoid uppercase for names of user defined variables



# User Defined Variables

- ▶ Created and maintained by users
- ▶ Avoid uppercase for names of **user defined variables**
- ▶ **Easy to differentiate between user defined and system variables**



# Unset



# Unset

- The value of a variable can be unset by using the `unset` command



# Unset

- ▶ The value of a variable can be unset by using the `unset` command
- ▶ The syntax for this is  
`unset variablename`



# Global and Local Variables

**In Shell script,**





# Global and Local Variables

In Shell script,

- ▶ User defined variables can be declared **globally** or **locally**



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- ▶ **By default, all variables are global**



# Global and Local Variables

In Shell script,

- ▶ User defined variables can be declared **globally** or **locally**
- ▶ By default, all variables are **global**
- ▶ **So, their values remain the same inside and outside the function**



# Getting user input via keyboard

## The `read` command

- ▶ is used to accept input from the keyboard



# Getting user input via keyboard

## The `read` command

- ▶ is used to accept input from the keyboard
- ▶ can also be used to assign an input value to a user defined variable



# Syntax of read command

► `read -p "PROMPT"`



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# Syntax of read command

- ▶ `read -p "PROMPT"`  
`man read`





# Summary

- ▶ **System variables**
- ▶ **User defined variables**
- ▶ **Accepting user input via keyboard**



# Assignment I

1. Write a simple Bash program to get the following system variables
  - ▶ pwd
  - ▶ logname



# Assignment II

## 2. Write a simple Bash program

- ▶ To ask username from user
- ▶ To exit the program, if user does not enter anything within 10 seconds

Hint: `read -t 10 -p`



# About the Spoken Tutorial Project

- ▶ Watch the video available at [http://spoken-tutorial.org/What\\_is\\_a\\_Spoken\\_Tutorial](http://spoken-tutorial.org/What_is_a_Spoken_Tutorial)
- ▶ It summarises the Spoken Tutorial project



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- ▶ It summarises the Spoken Tutorial project
- ▶ If you do not have good bandwidth, you can download and watch it



# Spoken Tutorial Workshops

## The Spoken Tutorial Project Team

- ▶ Conducts workshops using spoken tutorials
- ▶ Gives certificates to those who pass an online test
- ▶ For more details, please write to [contact@spoken-tutorial.org](mailto:contact@spoken-tutorial.org)



# Acknowledgements

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- ▶ It is supported by the National Mission on Education through ICT, MHRD, Government of India
- ▶ More information on this Mission is available at

<http://spoken-tutorial.org/NMEICT-Intro>

