

Referencing and Dereferencing

Spoken Tutorial Project

<http://spoken-tutorial.org>

National Mission on Education through ICT

<http://sakshat.ac.in>

Nirmala Venkat

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Learning Objective

We will learn about



Learning Objective

We will learn about

- **Scalar References**



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We will learn about

- **Scalar References**
- **Array References**



Learning Objective

We will learn about

- **Scalar References**
- **Array References**
- **Hash References**



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We will learn about

- **Scalar References**
- **Array References**
- **Hash References**
- **Dereferences**



Learning Objective

We will learn about

- Scalar References
- Array References
- Hash References
- Dereferences
- Add, remove, access elements of Array/Hash references



System Requirements



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- **Ubuntu Linux 12.04 OS**



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- **Perl 5.14.2**



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- **Perl 5.14.2**
- **gedit Text Editor**



Pre-requisites

- **Basic knowledge of Perl Programming**



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- **Array functions**



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Pre-requisites

- **Basic knowledge of Perl Programming**
- **Array functions**
- **Hash functions**
- **For relevant PERL tutorials, visit <http://spoken-tutorial.org>**



What is References?

- **A reference is a pointer or an address to a variable, array, hash or a subroutine**



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- **It does not contain data directly**



What is References?

- **A reference is a pointer or an address to a variable, array, hash or a subroutine**
- **It does not contain data directly**
- **Reference is an easy, compact scalar value**



Features of References

- **Reference will improve the performance when you pass or return large data structures**



Features of References

- Reference will improve the performance when you pass or return large data structures
- It saves memory as it passes a reference to a subroutine



Features of References

- Reference will improve the performance when you pass or return large data structures
- It saves memory as it passes a reference to a subroutine
- Easy to manage complicated Perl data structures



Create Reference

Put a backslash \ in front of a variable

Reference to a scalar variable: \$

```
$fvalue = 22;
```

```
$ref = \ $fvalue;
```



Create Reference - Array

Reference to an array variable: @

```
@color=('Red','Green','Yellow');
```

```
$colorRef=\@color;
```



Create Reference - Hash

Reference to a hash variable: %

```
%dept( 'Name' =>"Sunil",  
       'Designation' =>"Manager");
```

```
$deptref = \%dept;
```



What is Dereference?

- **When a reference is dereferenced, the actual value is returned**



What is Dereferencing?

- When a reference is dereferenced, the actual value is returned
- Enclose the reference variable within curly brackets { }



What is Dereferencing?

- When a reference is dereferenced, the actual value is returned
- Enclose the reference variable within curly brackets { }
- Precede the left curly bracket with a character, denoting the type of reference it is



Dereference - Variables

- Dereference a scalar variable:

`${$fref}`



Dereference - Variables

- Dereference a scalar variable:
 $\${\$fref}$
- Dereference an array variable:
 $@{\$colorRef}$



Dereference - Variables

- Dereference a scalar variable:
 $\${\$fref}$
- Dereference an array variable:
 $@{\$colorRef}$
- Dereference a hash variable:
 $\%{\$deptRef}$



Summary

In this tutorial we learnt,

- **Scalar References**
- **Array References**
- **Hash References**
- **Dereferences**
- **Add, remove, access elements of array/hash references**



Assignment

- 1 Add new keys "Saturday" and "Sunday" in `hash weektemp` in `hashRefadd.pl` file
- 2 Delete key "Saturday" at the end
- 3 Print `hash weektemp`
- 4 Save and execute the program
- 5 Check your result



About the Spoken Tutorial Project

- Watch the video available at http://spoken-tutorial.org/What_is_a_Spoken_Tutorial
- 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



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- **More information on this Mission is available at**

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

