

Course: Perl

Course Code: Perl

Session: 2017-18

Duration: 4 Months

Assessment procedures: Proctored certification Exam (100%)

Curriculum of the Course:

Basic Level

Topics

1. Overview and Installation of Perl

- Installation of Perl 5.14.2 on Ubuntu Linux
 - Installing XAMPP in Linux

(XAMPP is a cumulative package consisting of Apache, PERL, PHP and MySQL Packages is available for Linux)

- Default Webserver directory will be set to "opt"

OR

- Using default Perl installation available in Synaptic Package Manager
- Installation of Perl 5.14.2 on Windows
 - Installing XAMPP in Windows

(XAMPP is a cumulative package consisting of Apache, PERL, PHP and MySQL Packages is available for Windows)

- Default Webserver directory will be set to "htdocs"

2. Variables in Perl

- Variables are used for storing values, like text strings, numbers or arrays
- All variables in PERL start with a \$ sign symbol
- Declaring a variable in PERL: \$var_name = value;
- e.g:
 - \$count = 1;
 - \$stringVar = 'My Name is PERL';

3. Comments in Perl

- Two types of comments -
 - Single Line
 - Multi Line

- Single Line comment starts with the symbol #
- Multi Line comment used to comment a chunk of code
 - =cut =head or =begin =end
 - Start with = sign

4. **for-foreach-Loop**

- for Loop
 - for loop is used to execute a piece of code for certain number of times
- for-each Loop
 - for-each loop is used to iterate a condition over an array

5. **while-do-while Loops**

- while Loop
 - while loop executes a block of code while a condition is true.
- do-while Loop
 - do-while loop will always execute the piece of code at-least once
 - It will then check the condition and repeat the loop while the condition is true

6. **Conditional Statements**

- if Statement
 - if statement is used to execute piece of code only if a specified condition is satisfied.
- if-else Statement
 - if-else statement is used to execute piece of code if a condition is satisfied or another code if the condition is false.

7. **More Conditional Statements**

- if-elsif-else statement
 - if-elsif-else conditional statement is used to check specific condition and if it is true execute the respective block else execute the default else block.
- switch Statement
 - switch is conditional case statement. Satisfied case gets execute else the default case gets execute.

8. **Data Structures in Perl**

- Scalar
 - These are the basic variables in PERL.
 - It can hold any kind of type viz. string, number etc.
 - eg: \$variable = 9;
\$variable = 'This is string type of variable';
- Array
 - Array in PERL is ordered collection of data.

- It can hold data of any type.
- Array index starts from zero.
- eg: `@array = (1, 5, 6, 'abc', 7);`
- Hash
 - Associative array or Hash in PERL is un-ordered collection of data.
 - It is a key value pair.
 - Key cannot be duplicate in hash whereas value can be.
 - eg:


```
%hash = (
    'Name' => 'John',
    'Department' => 'Finance'
);
```

9. Arrays

- Getting Last index of array
- Getting length of an array
 - To get the length, add 1 to last index of an array
 - Other way is use scalar function on array or assign array to a scalar variable.
- Accessing element of an array
- Looping over an array
 - There are two ways to loop over an array
 - Using for loop
 - Using for-each loop

10. Array functions

- push
 - Add element at the end of an array
- pop
 - Remove element from the end of an array
- unshift
 - Add element at the start of an array
- shift
 - Remove element of an array from the start.
- split
 - This function splits the string and makes an array of it.
- qw
 - qw stands for “Quoted word”
 - It returns a list of word separated by white spaces.

- sort
 - sorts the array in alphabetical order.

11. Hash in Perl

- Accessing element of a hash
- Basic hash functions
- keys
 - Returns keys of a hash
- values
 - Returns values of a hash
- each
 - Retrieve the next key/value pair from a hash
- Looping over a hash

12. Functions in Perl

- Simple function
- Function with parameters
- Function which return single value
- Function which returns multiple values

13. Blocks in Perl

- Begin
 - This block executes at the compilation time once it is defined.
 - Anything which needs to be included before execution of the rest of the code is written here.
- End
 - This block executes at the end.
 - Anything which needs to be executed at last is written here.
- UNITCHECK blocks
- CHECK blocks
- INIT blocks

Intermediate level

Topics

1. Access Modifiers in PERL

- private variable - my
 - scope is in the block inside where it is declared.
 - lexically scoped variables - local
- that means they get the temporary value inside the block where it is used
 - global variables - our

- can be accessed without giving package name while accessing it in another package.

2. Referencing & Dereferencing in Perl

- Referencing
 - Create a reference by adding \ (backward slash)
 - Demo of various examples
 - Add, remove, access elements of array reference / hash reference in the script with examples.
- De-referencing
 - Get the actual entity being referred by reference.
 - Demo of various examples

3. Special Variables in PERL

- Special variables have a predefined and special meaning in Perl.
- These variables are denoted by usual variable indicator such as \$, @, % along with punctuation characters.

4. File Handling

- Open a file
- Open a File in Read Mode
- Open a File in Write Mode
- Open a File in Append Mode
- Close the FileHandle

5. Exception and error handling in PERL

- When an error occurs, exception and error handling helps to recover the program.
- Methods used in Perl:
 - warn()
 - die()
 - eval()

6. Including files and/or modules in a PERL program

- We can include the Perl modules or files by using the following methods.
- do: It includes the source code from other files into the current script file.
- use: It includes Perl module files only. Files get included before the actual execution of the code.
- require: It includes both Perl programs and modules.

7. Sample Perl Programs

- Includes all major topics that we covered so far in this sample program.
- This program will give the output of various weather forecast reports of a region.

- Weather.pm is a module that has a complex data structure to hold the data required for this program.
- weather_report.pl is the Perl program which makes use of this module file to give the required output

8. PERL Module library (CPAN)

- Comprehensive Perl Archive Network (CPAN) is the library of modules.
- User can make use of the existing modules available in CPAN
- New modules created by the user can be uploaded to CPAN so that other Perl users can make use of it.

9. Downloading CPAN module

- Linux OS:
 - There are several ways to download.
 - Type cpan and press Enter.
 - This gives us cpan prompt.
 - Type install module name.
- Windows OS:
 - With installation of Perl on windows, a utility called PPM(Perl Package Module) gets installed.
 - Type ppm install module name.

10. PERL & HTML

- To create HTML pages, Perl provides CGI module which creates CGI script with require HTML tags.
- There are different methods which CGI modules provide to add header, adding fields to the page, retrieving the values of the parameters posted on to the form.

List of students enrolled

1	Mahipal Singh Mahala
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10	Aditya Umesh Acharya
11	Akanksha Agarwal
12	Aman Goyal
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14	Amrin Nagma
15	Anisha Jindal
16	Ankit Goyal
17	Ankit Goyal
18	Anmol Gupta
19	Anshu Mulchandani
20	Anshul Kumar Garg
21	Anuj Jain
22	Apoorva Gupta
23	Archit Bohra
24	Ashi Singhal
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27	Aviral Agarwal
28	Avneet Kaur
29	Ayushi Gupta
30	Ayushi Khandelwal
31	Bhavesh Garg
32	Bhavya Kantiwal
33	Bhawesh Singh
34	Bhawna Mendiratta
35	Bhupendra Kumawat
36	Charchit Sharma
37	Chirag Aggarwal
38	Deepak Sharma
39	Dharmender Gurjar
40	Divyash Singh Hura
41	Ehaab Ahmad
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67	Mayank Tiwari
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69	Mudit Porwal
70	Mukesh Ostwal
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74	Neha Choudhary
75	Nipun Kumar Jain
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77	Nitesh Sharma
78	Nitisha Saini
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80	Prachi Dubey
81	Prachi Yadav
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85	Punit Kumar
86	Raj Kumar Khachawa
87	Rakesh Soni
88	Rishav Chetan
89	Ritika Gupta
90	Riya Ritu
91	Sagar Goyal
92	Saharsh Anand Sharma
93	Saket Kumar
94	Sakshi Saxena
95	Sanjay Singh Sankhla
96	Saumya Rastogi
97	Saurabh Khandelwal
98	Saurabh Soni
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101	Shreya Gupta
102	Shubham Bhargava
103	Shubham Gupta
104	Siddharth Rawat
105	Sonal Negi
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108	Sunil Suman
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129	Ayushi Goyanka
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131	Bhanu Pratap Singh Khangarot
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133	Eshan Indolia
134	Hardik Dadhich
135	Harshit Gupta
136	Ishan Kalra
137	Kanika Agarwal
138	Kartik Arora
139	Manav Charan
140	Muskan Dosi
141	Nikita Chaturvedi
142	Nishant Jain
143	Paramveer Choudhary
144	Paras Makhija
145	Pawan Jangid
146	Piyush Jain
147	Raja Kumar Shah
148	Rinkal Jain
149	Ritu Mangal
150	Rohit Gupta
151	Shivam Pandey
152	Somya Rajput

153	Udita Garg
154	Vijay Gehlot
155	Vipul Garg
156	Vartika Khandelwal
157	Rivak Shah
158	Daksh Adhikari
159	Aakanksha Dixit
160	Ajay Sain
161	Ajay Sharma
162	Akansha Mathur
163	Akshita Khatri
164	Aman Kumar Gautum
165	Aman Mahnot
166	Amritanshu Singh Chauhan
167	Anant Mishra
168	Anika Kocher
169	Anjali Kumari
170	Ankit Na
171	Ankita Jain
172	Anmol Babbar
173	Atul Joshi
174	Deepansh Soni
175	Deepanshu Samdani
176	Dheeraj Khandelwal
177	Divyansh Soni
178	Dixita Jain
179	Harsh Pandya
180	Hemant Vikani
181	Himanshu Bartiya
182	Jayesh Nagar
183	Kalpesh Sharma
184	Karan Raj Singh
185	Kriti Joshi
186	Malay Garg
187	Maninder Singh Dua
188	Mansi Sharma
189	Mitali Jangid
190	Neha Alwani
191	Nihal Soni
192	Nitin Agnihotri
193	Peeyush Goyal
194	Pradeep Lakwal

195	Pradeep Pandey
196	Prakhar Chatter
197	Prateek Sen
198	Puneet Saxena
199	Punita Tiwari
200	Rakesh Sharma
201	Ram Mohan Jain
202	Ritika Somani
203	Rohit Sharma
204	Ruchika Jangid
205	Sakshi Agrawal
206	Samyak Jain
207	Sankalp Chawla
208	Shipra Agarwal
209	Shradha Sharma
210	Shubham Singhvi
211	Siddharth Sharma
212	Simran Khandelwal
213	Sumit Mathur
214	Sunil Sharma
215	Tushar Kumawat
216	Vaibhav Parashar
217	Vaibhav Sankhla
218	Vipendra Pal Rajput
219	Ayush Gupta
220	Prateek Surana
221	Aditi Mathur
222	Aishwarya Soni
223	Alekh Pandey
224	Arushi Bhagwati
225	Asmita Purohit
226	Atul Goyal
227	Geeta Arora
228	Inesh Kumar
229	Ketan Soni
230	Kuldeep Singh
231	Kumari Sukanya
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238	Pranjul Gupta
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240	Reeti Choudhary
241	Shubham Bhargava
242	Deepanshu Sain
243	Purvi Mehta
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245	Nilisha Mitruka
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247	Kartike Bansal
248	Jacky N Gamot
249	Punit Sharma
250	Kanak Garg
251	Harshit Bhargava
252	Vedant Vasishta
253	Raj Agarwal
254	Bhumi Shah
255	Riitwick Krishnatri
256	Hassaan Alvi
257	Aman Agwal
258	Anuj Chhabra
259	Rishabh Garg
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