

Course: Perl

Course Code: Perl

Session: 2016-17

Duration: 4 months

Assessment procedures: Proctored certification Exam (100%)

Curriculum of the Course:

- 1 Introduction to Perl
- 2 Basic Level
- 3 Intermediate level

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

#	Name of Student
1	SAGAR JANGID
2	AALEKH RAVI
3	ABHINAV KUMAWAT
4	ABHISHEK CHOUHAN
5	ABHISHEK SAINI
6	ABHISHEK VERMA
7	AMIT KILANIYA
8	ANUPAM JUNI WAL
9	ARPIT GARG

10	ARPIT KHANDELWAL
11	AYUSH SHARMA
12	CHARUL JAIN
13	DEVWRATH JADAWAT
14	DHARAMVEER SINGH RATHORE
15	DIVYA PRATAPSINGH
16	HARSH CHATURVEDI
17	JAI JAIN
18	JYOTISH TIWARI
19	KHUSHAHAL JOSHI

20	KUSUM WADHWANI
21	MANISH NEBHNANI
22	MANJINDER SINGH
23	MATHUR AAYUSH NEERAJ
24	MAYANK BALANI
25	MUDITA JAIN
26	NIKITA GUPTA
27	NITIN ROHRA
28	PIYUSH YADAV
29	PIYUSHI BHARGAVA
30	PRACHI SHARMA
31	PRASHANT AGARWAL
32	PRIYA CHUGH
33	RAHUL KUMAR
34	RAVI ROSHAN
35	RIDDHIMA MAHESHWARI
36	ROHAN SAINI
37	SAKSHAM JANGID
38	SAKSHI KUMARI
39	SAKSHI MAHESHWARI
40	SAUMYA SRIVASTAVA
41	SHRESHTHA TIWARI
42	SHREY JARADI
43	SHREYANSHEE GATTANI
44	SHUBHAM KISHORPURIA
45	SMRITI KHANDELWAL
46	SOURABH GUPTA
47	SUHAN JOSH
48	SUMIT SOMNANI
49	SUPRIYA SINGH
50	SURBHI GARG
51	SWAPNIL SINGH
52	SWASTIK SOMANI
53	TARUN SHARMA
54	TEJENDRA JAROLI
55	TUSHAR SHARMA
56	UJJWAL MADAWAT
57	VALLABH JAIN
58	YASH GEEL
59	YASH VIJAY
60	RAMJILAL CHOUDHARY
61	RITU KANWAR RAJAWAT
62	AAYUSH SHARMA
63	AAYUSHI BENIWAL
64	ABHINANDAN KUMAR SINGH
65	ACHAL JAIN

66	ADITYA SHARMA
67	AISHWARY JOHRI
68	AMANDEEP WALIA
69	AMRIT KUMAR
70	ANISH GARG
71	ANKIT PAREEK
72	ANUBHAV SHRIMAL
73	AYUSH CHHAWAL
74	AYUSH VASHISHTH
75	CHANDAN CHOUBISA
76	DEEPAK SHARMA
77	DHAIRYA BHARDWAJ
78	DINESH SOLANKI
79	DIVYA ARORA
80	DIVYANK VIJAYVERGIYA
81	DIVYANSH PANDEY
82	GARIMA MANGAL
83	GAURANG BANSAL
84	GAURAV SHARMA
85	HARI SINGH
86	HARPREET SETHI
87	HARSH MANDAN
88	HARSHIT JAIN
89	HARSHIT SINGH LODHA
90	HARSHITA MAHESHWARI
91	HITENDRA SINGH RATHORE
92	KAPIL AGRAWAL
93	KARAN MAKVANA
94	KSHITIJ MAHESHWARI
95	KUSHAGRA KHANDELWAL
96	LAKSHMAN RAJPUROHIT
97	MAHIMA DOSHI
98	MANISH DHAYAL
99	MD SALMAN HUSSAIN
100	MEGHNA BHATTACHARYA
101	MOHIT SINGH BAGHEL
102	NAVEEN KUMAR SHARMA
103	NEELES MALPANI
104	PEEYUSH PANT
105	POONAM JOSHI
106	PRANAY BHARDWAJ
107	PRANSHU RASTOGI
108	PRERANA GUPTA
109	PULKIT SHARMA
110	PUSHPENDER KUMAR
111	RAHUL DUBEY

112	RAHUL YADAV
113	RAUNAK AGARWAL
114	RISHAV RANJAN
115	RITIK PATNI
116	RITVIK JAIN
117	RIYA MITTAL
118	ROHAN SHARMA
119	ROHIT PACHAURI
120	ROHIT TAMRA
121	ROOPESH JOSHI
122	RUCHI SINGHAL
123	SACHIN PRATAP SINGH CHAUHAN
124	SAGAR KALRA
125	SAURABH BHARGAVA
126	SHASHWAT SHARMA
127	SHUBHAM KUMAR
128	SHUBHAM PUROHIT
129	SHUBHANGI GOVIL
130	SIMRAN DUTT SHARMA
131	SMRITI GUPTA
132	SOHAIL MANSOORY
133	SONAM SAINI
134	SONIYA YADAV
135	SUMIT KUMAR
136	SURBHI KHANDELWAL
137	SURYAVEER SINGH
138	TANU MITTAL
139	TRIPTI JAIN
140	TWINKLE GARG
141	TWINKLE SHARMA
142	VAIBHAV VIJAY
143	VARUN JAIN
144	VIJAY KAUSHIK
145	VIKASH KUMAR JANGID
146	VINEET BAJ
147	VIRENDRA SINGAL
148	PANKAJ AGRAWAL
149	AKSHIKA PATNI
150	SHIVANI BIJARNIA
151	VAIBHAV GAUTAM
152	RASHMI KUMARI
153	EKANSH PARNAMI
154	MOHITA HARSH
155	RAHUL JANGID
156	AAKANKSHA SHARMA
157	ABHINAV DHAKA

158	ABHISHEK AGARWAL
159	ABHISHEK JAIN
160	ABHISHEK KALA
161	ABHISHEK KUMAR SINGH
162	AJIT MERATWAL
163	AKANKSHA TIWARI
164	AKSHAY MISHRA
165	ANSHI AGARWAL
166	ANUBHUTI AGRAWAL
167	AYUSH DIDWANIYA
168	AYUSH JAIN
169	CHANDRESH JOSHI
170	DEEPAK LAHOTY
171	DEEPALI SAXENA
172	DIVYANSH DHAMANIYA
173	HARSH KUMAWAT
174	HARSH MANWANI
175	HARSH VARDHDHAN RAJPUROHIT
176	HARSHIT MANTRI
177	HIMANSHU BANSAL
178	HIMANSHU GANGLANI
179	KAUSHAL DUBEY
180	KIRTI MITTAL
181	LAKSHYA SANADHYA
182	MALAY SINGH
183	MAYANK CHITTORA
184	MILIND SHARMA
185	NANDITA KHEMNANI
186	NILISHA BANSAL
187	NITESH ARORA
188	PRATEEK TIWARI
189	PRINCE JAIN
190	REETIKA SINGH
191	RONAK JAIN
192	SAAD SIDDIQUI
193	SANGEETA GURJAR
194	SAURABH SONI
195	SHREYA GUPTA
196	SONA KUMAR
197	SONAL KHANNA
198	SONALI SINHA
199	SUDHANSHU INDORIA
200	SUNAINA LALWANI
201	VAIBHAV GANDHI
202	VIVEK SINGHAL
203	YASH ARORA

204	RAMANDEEP KOUR
205	SAURABH CHATURVEDI
206	ADITYA KAUL
207	ALZAIB KHAN
208	APURWA
209	MEENAL SHARMA
210	NILESH KUMAR
211	PAYAL
212	PIYUSH JAIN
213	RITIKA JAIN
214	SAGAR GARG
215	SANCHARI DEY
216	SANJU JANU
217	SHIVANI GUPTA
218	SHUBHENDU MAL
219	TANU SHRI PANT
220	YAASHI AGGARWAL
221	YASHIKA GUPTA
222	PAYAL KHANDELWAL
223	MANU GOYAL
224	DIVYANSHA GUPTA
225	ADITI SINGH

226	DISHA AGARWAL
227	SAGAR CHOUDHARY
228	BHARAT SINGH
229	AKSHAY KATARE
230	AASHUTOSH SHARMA
231	SAKSHI SHARMA
232	SHIVANSHI SHARMA
233	KABEER CHATURVEDI
234	JIGYASA GOYAL
235	ABHISHEK KHANDELWAL
236	SHIPRA KHANDELWAL
237	KHUSH VYAS
238	KUSUM SANKHALA
239	AYUSH SHARMA
240	DEEPIKA KANWAR
241	PRAVESH RANAWAT
242	AYUSHI SOMANI
243	HANISHA NANKANI
244	NEHA ARUN
245	VIPASHA CHOUDHARY
246	TULIKA SINGH
247	PRAMOD SHARMA