



HEADSTAR TECHNOLOGIES

INTRODUCTION

Python is a high-level, interpreted, interactive and OOPS language. Python was designed to be highly readable, uses English keywords frequently whereas other languages use punctuation and it has fewer syntactical constructions than other languages. Course is being designed for software programmer with a need to understand Python programming and frameworks. Training on Python is being imparted in a friendly environment with team task and definite goals.

Extracting link from a webpage

- Programming Language
- Overview of Python, which version and why python
- Getting Started: Downloading and Installing
- Backus-Naur Form
- Introduction to Web Crawler
- Python Expressions, operators and expressions
- Variables types and properties
- Strings types(raw, Unicode), properties, methods, indexing, sequencing, slicing, finding string in strings, finding string in string with numbers
- Extracting Links from a webpage
- Quiz, questions and queries

Extracting all links from a webpage

- Procedure, defining function
- Making Decision, Flow Control
- Logical, Boolean Expressions
- Loops (While loop), Break Statement
- Factorial using while loop
- Multiple assignment
- Printing all links from a webpage

Getting all links from all pages

- Structured Data – List
- List properties, indexing, slicing
- Strings are special kinds of lists
- Nested Lists
- Mutation (of strings and lists)
- Aliasing
- List Operations (append, plus, len, extent)
- Loops (while loop) on lists
- FOR LOOP
- In operator, index operator
- Union procedure for list



HEADSTAR TECHNOLOGIES

- List.pop()
- Collecting all url in a list
- Crawling the web procedure

Building an index

- Data Structure
- Building index using list and performing lookup
- Network, latency, bandwidth, traceroute and bit
- Browser, Server, Protocol

Efficient Algorithms

- Hash table concept
- Implementing a Hash Table
- Hash Table Lookup
- Introduction to Dictionary Data Type
- Dictionary Operations
- Using Dictionary in Index
- Recursive Definitions
- Base Case and recursive case
- Factorial using Recursion
- Palindromes
- Fibonacci Numbers
- Introduction to Ranking Web Pages (Page Rank)

Graphs

- Graphs Data Structure for Page Ranking
- Building the Link Graph
- Computing Page Rank
- Best page Lookup

Lists & Tuples

- Strings
- List
- Dictionary
- List Comprehension Operations
- List Comprehension Revised
- Introduction to Tuples, Sets, range, xrange

Python I/O

- Working with Files
- Opening a text file
- Reading a file
- Writing to file
- File Operations

Exception

- Error and Exception handling



HEADSTAR TECHNOLOGIES

- Dealing with errors
- Modules
- Importing Modules
- Regular Expressions
- Introduction to List Comprehensions

Lambda

- Lambda Function
- Generator expression
- String formatting

OOPs in Python

- OOP Programming
- Defining Classes
- Constructors
- Instance methods and Instance data
- Class methods and Class data
- Inheritance
- Passing arguments to functions (*args, **kwargs)

Regular expressions

- Match function
- Search function
- Matching VS Searching
- Modifiers
- Patterns

CGI

- Introduction
- Architecture
- CGI environment variable
- GET and POST methods
- Cookies
- File upload

Database

- Introduction
- Connections
- Executing queries
- Transactions
- Handling error

Networking

- Socket
- Socket Module
- Methods



HEADSTAR TECHNOLOGIES

Client and server

Internet modules

Multithreading

Thread

Starting a thread

Threading module

Synchronizing threads

Multithreaded Priority Queue

Web Modules in Python

Building a blog site

Introduction to HTML Elements

Building a simple blog site

Introduction to Web Designing and Flash