

VISVESVARAYA TECHNOLOGICAL UNIVERSITY

"Jnana Sangama" Belagavi – 590010



**INTERNSHIP Report**

on

**“JAVA/PYTHON FULL STACK DEVELOPMENT,  
DATA STRUCTURES & ALGORITHMS, ARTIFICIAL  
INTELLIGENCE AND MACHINE LEARNING,  
APTITUDE AND SOFT SKILL TRAINING”**

Submitted in partial fulfillment of the requirements for the award of degree

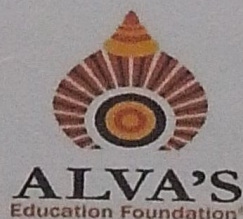
**BACHELOR OF ENGINEERING  
IN  
ELECTRONICS & COMMUNICATION ENGINEERING**

Submitted By

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**DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING  
ALVA'S INSTITUTE OF ENGINEERING & TECHNOLOGY**

A+, Accredited by NAAC & NBA (ECE & CSE)

Shobhavana Campus, Mijar – 574225

2023 - 2024



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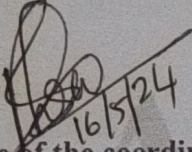
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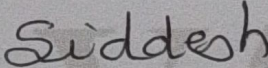
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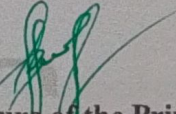
## DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

### CERTIFICATE

Certified that the Internship work on “**JAVA/PYTHON FULL STACK DEVELOPMENT, DATA STRUCTURES & ALGORITHMS, ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING, APTITUDE AND SOFT SKILL TRAINING**” carried out by **RAMYA K** bearing **4AL20EC041** in partial fulfillment for the award of **BACHELOR OF ENGINEERING in ELECTRONICS AND COMMUNICATION ENGINEERING** of the **VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI** during the year 2023-24. The internship has been approved as it satisfies the academic requirements in respect of Internship prescribed for the Bachelor of Engineering Degree.

  
Signature of the coordinator  
Mrs. Bhagyashree K

  
Signature of the HoD  
Dr. Siddesh G K

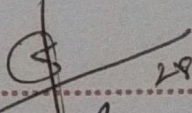
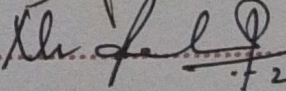
  
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## LIST OF ABBREVIATIONS

BCPL	Basic Combined Programming Language
ANSI	American National Standards Institute
DSA	Data Structures and Algorithms
ADT	Abstract Data Type
LIFO	Last-in first-out
FIFO	First in first out
BST	Binary Search Tree
API	Application Programming Interface
GPL	General Public License
SUN	Stanford University Network
J2SE	Java 2 Standard Edition
J2EE	Java 2 Enterprise Edition
J2ME	Java 2 Micro or Mobile Edition
JRE	Java Runtime error
JVM	Java virtual Machine
JDK	Java Development Kit
WAP	Wireless Access / Application protocol
OOPS	Object-oriented Programming
RDMS	Relational Database Management Systems
DDL	Data Control Language
DML	Data Manipulation Language
HTML	Hypertext Markup Language
CSS	Cascading Style Sheets



## CHAPTER 1

### INTRODUCTION

#### 1.1 About the organization

QSpiders is a leading software testing and development training institute with branches across India. It was founded by Mr. Prakash Francis in 2007, with the aim of providing high-quality training to students and professionals in the software testing and development fields. QSpiders has trained more than 1,50,000 students so far and is recognized as one of the best training institutes in the country. QSpiders has a team of highly skilled trainers who are experts in their respective domains. The trainers are well-versed in the latest technologies and industry trends and provide practical, hands-on training to students. The institute offers courses in software testing, software development, and other related domains. The courses are designed to provide students with a strong foundation in the subject and to prepare them for real-world challenges. The institute has state-of-the-art infrastructure, with well-equipped labs, classrooms, and training facilities. The labs are equipped with the latest hardware and software, and provide students with a hands-on learning experience. The classrooms are spacious and well-lit, and provide a comfortable learning environment for students. The training facilities are designed to provide a conducive environment for learning, with all the necessary amenities.

QSpiders has tie-ups with leading companies in the software industry and provides placement assistance to students. The institute has a dedicated placement team that works with students to help them secure job placements. The placement team also conducts mock interviews, resume-building workshops, and other activities to prepare students for the job market. QSpiders has also been committed to providing placement assistance to their students. They have a dedicated placement cell that helps students with job placements after completing their training programs. The placement cell has tie-ups with leading IT companies in India, and they regularly conduct placement drives for their students.

In summary, QSpiders has come a long way since its inception in 2001. From humble beginnings, it has grown to become one of the most reputed software testing training institutes in India. With its commitment to quality training, state-of-the-art infrastructure, and dedicated placement cell, QSpiders is poised to continue its success in the years to come.



## CHAPTER 2

# BASICS OF C- PROGRAMMING

### 2.1 Brief history of C

C is a general-purpose programming language which features economy of expression, modern control flow and data structures, and a rich set of operators. C is not a "very high level" language, nor a "big" one, and is not specialized to any area of application. But its absence of restrictions and its generality make it more convenient and effective for many tasks than supposedly more powerful languages. The history of C programming language is quite interesting. C was originally designed for and implemented on the UNIX operating system by Dennis Ritchie. C is the result of a development process that started with an older language called (BCPL) Basic Combined Programming Language. BCPL was developed by Martin Richards, and it influenced a language called B, which was invented by Ken Thompson. B led to the development of C in the 1970s. For many years, the de facto standard for C was the version supplied with the UNIX operating system. In the summer of 1983, a committee was established to create an ANSI (American National Standards Institute) standard that would define the C language. The standardization process took six years (much longer than anyone reasonably expected).

### 2.2 Constants and Variables in C language

As the name suggests the name constants is given to such variables or values in C programming language which cannot be modified once they are defined. They are fixed values in a program. There can be any types of constants like integer, float, octal, hexadecimal, character constants etc. Every constant has some range. The integers that are too big to fit into an int will be taken as a long. Now there are various ranges that differ from unsigned to signed bits. Under the signed bit, the range of an int varies from -128 to +127 and under the unsigned bit, int varies from 0 to 255.



## CHAPTER 3

# DATA STRUCTURE & ALGORITHM

### 3.1 INTRODUCTION

The DSA stands for "Data Structures and Algorithms." Data Structure is a way of collecting and organizing data in such a way that can perform operations on these data in an effective way. Data Structures is about rendering data elements in terms of some relationship, for better organization and storage. For example, have some data which has player's name "Virat" and age 26. Here "Virat" is of String data type and 26 are of integer data type. An algorithm is a finite set of instructions or logic, written in order, to accomplish a certain predefined task. Algorithm is not the complete code or program, it is just the core logic (solution) of a problem, which can be expressed either as an informal high-level description as pseudocode or using a flowchart. As data structure is a scheme for data organization so the functional definition of a data structure should be independent of its implementation. The functional definition of a data structure is known as ADT (Abstract Data Type) which is independent of implementation. The way in which the data is organized affects the performance of a program for different tasks. Computer programmers decide which data structures to use based on the nature of the data and the processes that need to be performed on that data. Some of the more commonly used data structures include lists, arrays, stacks, queues, heaps, trees, and graphs.

### 3.2 Classification of Data Structures

Data structures can be classified as

- Simple data structure
- Compound data structure
- Linear data structure
- Nonlinear data structure



## CHAPTER 4

# CORE JAVA

### 4.1 History of Java

James Gosling initiated Java language project in June 1991 for use in one of his many sets top box projects. The language, initially called 'Oak' after an oak tree that stood outside Gosling's office, also went by the name 'Green' and ended up later being renamed as Java, from a list of random words. Sun released the first public implementation as Java 1.0 in 1995. It promised Write Once, Run Anywhere, providing no-cost run-times on popular platforms. On 13 November, 2006, Sun released much of Java as free and open-source software under the terms of the GNU General Public License (GPL). On 8 May, 2007, Sun finished the process, making all of Java's core code free and opensource, aside from a small portion of code to which Sun did not hold the copyright.

### 4.2 INTRODUCTION

Java is one of the programming language or technology used for developing web applications. Java language developed at SUN Micro Systems in the year 1995 under the guidance of James Gosling and their team. Originally SUN Micro Systems is one of the Academic universities (Stanford University Network) Whatever the software developed in the year 1990, SUN Micro Systems has released on the name of oak, which is original name of java (scientifically oak is one of the tree names). The OAK has taken 18 months to develop. The oak is unable to fulfill all requirements of the industry. So, James Gosling again reviews this oak and released with the name of java in the year 1995. Scientifically java is one of the coffee seed names. Java is a platform independent, more powerful, secure, high performance, multithreaded programming language. Here we discuss some points related to java.

Java divided into three categories; they are.

- J2SE (Java 2 Standard Edition): J2SE is used for developing client-side applications.
- J2EE (Java 2 Enterprise Edition): J2EE (Java 2 Enterprise Edition)



## CHAPTER 5

# HTML

### 5.1 INTRODUCTION

HTML stands for Hypertext Markup Language, and it is the most widely used language to write Web Pages.

- Hypertext refers to the way in which Web pages (HTML documents) are linked together. Thus, the link available on a webpage is called Hypertext.
- As its name suggests, HTML is a Markup Language which means you use HTML to simply "mark-up" a text document with tags that tell a Web browser how to structure it to display.

Originally, HTML was developed with the intent of defining the structure of documents like headings, paragraphs, lists, and so forth to facilitate the sharing of scientific information between researchers.

#### 5.1.1 Basic HTML Document

```
<!DOCTYPE html>
<html>
<head>
<title>This is document title</title>
</head>
<body>
<h1>This is a heading</h1>
<p>Document content goes here.....</p>
</body>
</html>
```

Fig 5.1: Basic HTML template

Either you can use Try it option available at the top right corner of the code box to check the result of this HTML code, or let us save it in an HTML file test.htm using your favorite text



## CHAPTER 6

### CSS

#### 6.1 INTRODUCTION

Cascading Style Sheets, fondly referred to as CSS, is a simple design language intended to simplify the process of making web pages presentable. CSS handles the look and feel part of a web page. Using CSS, you can control the color of the text, the style of fonts, the spacing between paragraphs, how columns are sized and laid out, what background images or colors are used, as well as a variety of other effects. CSS is easy to learn and understand but it provides a powerful control over the presentation of an HTML document. Most commonly, CSS is combined with the markup languages HTML or XHTML.

#### 6.2 Advantages of CSS

- CSS saves time - You can write CSS once and then reuse the same sheet in multiple HTML pages. You can define a style for each HTML element and apply it to as many web pages as you want.
- Pages load faster - If you are using CSS, you do not need to write HTML tag attributes every time. Just write one CSS rule of a tag and apply it to all the occurrences of that tag. So, less code means faster download times.
- Easy maintenance - To make a global change, simply change the style, and all the elements in all the web pages will be updated automatically.
- Superior styles to HTML - CSS has a much wider array of attributes than HTML, so you can give a far better look to your HTML page in comparison to HTML attributes.
- Multiple Device Compatibility - Style sheets allow content to be optimized for more than one type of device. By using the same HTML document, different versions of a website can be presented for handheld devices such as PDAs and cellphones or for printing.
- Global web standards – Now HTML attributes are being deprecated and it is being recommended to use CSS. So, it is a good idea to start using CSS in all the HTML pages to make them compatible with future browsers.



## APPENDIX





