Summer internship Report
on
(PYTHON)

at
(COURSERA)

Submitted by

Yash Jain
Roll no. 1900300100254

In the partial fulfillment for the award of the degree
of

Bachelor of Engineering
in
Computer Science and Engineering

Inderprastha Engineering College,Ghaziabad
U.P

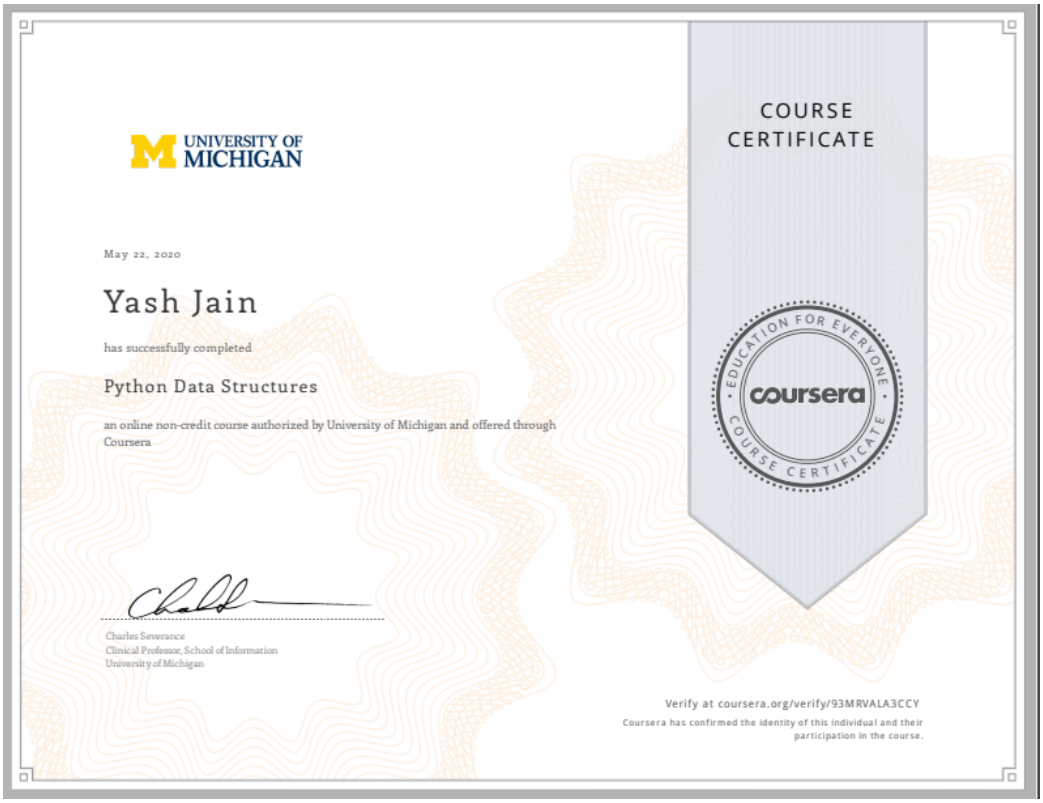
OCTOBER, 2020

Certificate

PYTHON FOR EVERYBODY

Certificate

PYTHON DATA STRUCTURES



Certificate

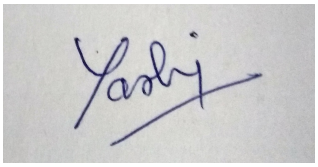
PROJECT 1

Certificate

PROJECT 2

Declaration

I **Yash Jain** hereby declare that I have undertaken **7 weeks** Industrial Training Report at **COURSERA** during a period from **20-MAY-2020 to 12-JUNE-2020** in partial fulfillment of requirements for the award of degree of B.Tech (Computer Science and Engineering) at INDERPRASTHA ENGINEERING COLLEGE GHAZIABAD U.P .



Student Signature
Student Name: Yash Jain
Roll No.- 1900300100254

Date: 24/10/2020

Acknowledgement

The successful completion of any project requires guidance and help from a number of people. I take my immense pleasure in expressing a whole hearted thanks to all the officials who guided me all the way through my training in the organization.I therefore take this opportunity to express my profound sense of gratitude to all those who extended their whole hearted help and support to me in carrying out the project work.

Yash Jain

Contents

Preface

It is well evident that work experience is an indispensable part of every professional course. In the same manner practical training in any organization is must for Bachelor of Engineering course. This training gives more knowledge about real corporate world environment. It also helps the individual to improve his/her skills to a great extent and assess his/her personality in corporate life.

Classroom study is quite important for gaining theoretical knowledge, but practical knowledge is equally important for the candidates to improve skills in real working environment in any field of study.

To be a good engineer, one must be aware of the industrial environment and must know about project management, working in the industry and so on. To bridge the gap between college and industrial environment summer training is one of the effective ways of learning. During this period, a student practice in the industry and gains experience and knowledge about the working in industry.

Abstract

Industrial training is an important phase of a student life. A well planned, properly executed and evaluated industrial training helps a lot in developing a professional attitude. It develops an awareness of industrial approach to problem solving, based on a broad understanding of process and mode of operation of organization. The aim and motivation of this industrial training is to receive discipline, skills, teamwork and technical knowledge through a proper training environment, which will help me, as a student in the field of Computer Science, to develop a responsiveness of the self-disciplinary nature of problems in information and communication technology. During a period of 7 weeks training at COURSERA, I was assigned to create a basic python project application. Throughout this industrial training, I have started to learn new programming language that required for the system, the process of the production lines and able to implement what I have learnt in this training.

Chapter 1

INTRODUCTION TO ORGANIZATION(s)

1.1 Courses

I did all of these courses from coursera. Coursera is a leading provider of online education including courses, guided projects, live training, mentorship, and virtual degrees of various masters programmes. I liked the distance-learning programmes.

Every course on Coursera is taught by top instructors from world-class universities and companies and one can learn something new anytime, anywhere. Hundreds of free courses gives one access to on-demand video lectures, homework exercises, and community discussion forums. Paid courses provide additional quizzes and projects as well as a shareable Course Certificate upon completion.

- 100% online
- Learn something new in 4-6 weeks
- Earn a Course Certificate

1.1.1 Guided Projects

One can learn a job-relevant skill that he or she can use today in under 2 hours through an interactive experience guided by a subject matter expert. We can access everything we need right in our browser and complete our project confidently with step-by-step instructions.

Guided Projects on Coursera are interactive projects that enable learners to gain a job-relevant skill in under two hours. A side-by-side interface allows

learners to watch visual instructions on one side of the screen while applying what they learn on the other side of the screen.

With over 150 Guided Projects available now and hundreds more launching by the end of the year, one can learn a wide range of valuable, job-relevant skills. Projects cover everything from building foundational business, technology, and data skills, to learning techniques for transformational algorithms like neural networks and Markowitz models. Whatever your area of interest, Guided Projects offer focused and efficient ways to master in-demand skills.

Chapter 2

SOFTWARE TRAINING WORK UNDERTAKEN

2.1 Programming for Everybody(Getting Started with Python)

This course aims to teach everyone the basics of programming computers using Python. This course covered the basics of how one constructs a program from a series of simple instructions in Python. The course has no pre-requisites and avoids all but the simplest mathematics. Anyone with moderate computer experience should be able to master the materials in this course.

This course covered Chapters 1-5 of the textbook "Python for Everybody". Once a student completes this course, they should be ready to take more advanced programming courses. This course covers Python 3.

SKILLS I GAINED:-

- Python basics
- Knowledge to further improve
- Basic loops and conditional programming
- Computer programming
- Basic functions

2.2 Python Data Structures

This course introduced the core data structures of the Python programming language. The instructors did not move past the basics of procedural programming and explored how we can use the Python built-in data structures such as lists, dictionaries, and tuples to perform increasingly complex data analysis.

This course covered Chapters 6-10 of the textbook "Python for Everybody". This course covers Python 3. This course aims to introduce basic data structures in python and how and when to implement them.

SKILLS I GAINED:-

- Python programming
- Strings
- Lists
- Tuples
- Dictionary

Chapter 3

PROJECT WORK

3.1 Project 1: Create Your First Python Program

In this project-based course, I learned the basics of Python programming language, and its basic syntax. Through hands on, practical experience, I went through different concepts like variables, functions, lists, conditional statements, for and while loops, and getting user input. I then applied the concepts to create my first application to manage a To-Do List.
The output of the program is:-

```
Menu
1. Add an item
2. Mark as done
3. View items
4. Exit
Enter your choice: 1
What is to be done?Assignment
Added item Assignment
Menu
1. Add an item
2. Mark as done
3. View items
4. Exit
Enter your choice: 3
List of to-do items:
Assignment
Menu
1. Add an item
2. Mark as done
3. View items
4. Exit
Enter your choice: 2
What is to be marked as done?Assignment
Removed item: Assignment
Menu
1. Add an item
2. Mark as done
3. View items
4. Exit
Enter your choice: 3
List of to-do items:
Menu
1. Add an item
2. Mark as done
3. View items
4. Exit
Enter your choice: 4
Goodbye
```

3.2 Project 2: Introduction to Python

Learning Python allows the programmer to focus on solving problems, rather than focusing on syntax.

In this project, I created a guessing game application that pits the computer against the user. I created variables, decision constructs, and loops in python to create the game.
The output of the program is:-

```
Enter your guess between 1 and 100:98
lower
Enter your guess between 1 and 100:27
higher
Enter your guess between 1 and 100:55
lower
Enter your guess between 1 and 100:35
higher
Enter your guess between 1 and 100:40
higher
Enter your guess between 1 and 100:44
higher
Enter your guess between 1 and 100:50
lower
Enter your guess between 1 and 100:48
lower
Enter your guess between 1 and 100:47
lower
Enter your guess between 1 and 100:46
you guessed it!
You took 9 steps to guess the number
computer took 4 steps!
```

Github link to both of my projects:-
https://github.com/yashjain9953/internship-project-2nd-year.git

Chapter 4

RESULTS AND DISCUSSION

After completing the course and passing all the quizzes and assignments, now I am able to understand the basics of python syntax and semantics. I know now how to write basic python code and construct a basic python program using a series of simple python instructions. Now I am able to take more advance courses and further increase my knowledge and power of programming in Python. I got to know about some basic data structures such as lists, tuples and dictionary. I now know about loops, conditional codes and basic functions in Python.

As I was able to pass the quizzes and submit assignments on time, I was able to understand the course and get the most out of it without any rush or pressure. Because of this, I was able to do some guided projects on the same as mentioned above.

References

[1] COURSERA

[2] https://www.python.org/doc/

[3] YOUTUBE

[4] http://pythontutor.com/visualize.htmlmode=edit