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Introduction

Welcome to this document on 'Programming Bootcamp'.

We have come up with a new feature in the program, i.e., the Programming Bootcamp. This Bootcamp series will entail some additional features (on top of your diploma) that you can opt-in for, completely free of any cost. You will gain a better understanding of this feature and what it entails as you further go through this document.

Programming Bootcamp and the Need for it

As you might be aware, the PGDDS program sees learners coming from a diverse range of backgrounds and experiences. In the past, many learners who had little or no coding experience felt that the program is highly rigorous, and they needed some extra support to get on pace with programming concepts. As Python programming is one of the core skills in Data Science, it becomes imperative that each learner gets comfortable with coding to ease the learning curve throughout the program.

To solve this problem for such learners, we are offering a Programming Bootcamp series as an additional feature pack free of cost to boost the learning experience of the learners as well as to reduce the performance gap between the learners from technical and non-technical backgrounds. The learners who are opting for the Bootcamp are given deferral to the next cohort (free of cost) and are provided with additional time, support, and practice for programming through live sessions and practice questions spread out over three weeks.

How does the Bootcamp Work?

If you are a newbie to programming or have little coding experience, attending multiple live sessions, practising coding and meeting module deadlines all at the same time can be overwhelming for some of you.

Upon opting for Bootcamp, you will be deferred to the next cohort free of cost and you will not have any module deadlines for the next 3 weeks. In this span of 3 weeks, you will be attending our customised Python live sessions for beginners and practice coding questions that are uploaded on our platform on a weekly basis.

After the Bootcamp, you will resume the program from where you left (Programming in Python) with better fundamentals of programming well-known. Even if you had completed some portions of programming in Python before the Bootcamp, your module progress will be reset and you will start this module from scratch after the Bootcamp.

As you may be aware of the rebranding of our 'PG Diploma in Data Science' as 'Executive PG Programme in Data Science' and 'PG Certification Program in Data Science' as 'Advanced Certificate Programme in Data Science'. The same will come in effect from the batch starting on April 30, 2021. Hence, **your final course completion certificate will contain the course name 'Executive PG Programme in Data Science' or 'Advanced Certificate Programme in Data Science', offered by IIITB**. However, there is **NO change** in the curriculum and grading system of the program.

Features of the Bootcamp

The Bootcamp enrollments will happen during the second and third week of the program and the Bootcamp series commences from the 4th week of the program. Once the pack commences, you would be given the following features:

1. **Live sessions:** There will be two live sessions conducted during weekends (one on Saturday and one on Sunday) for 3 weeks. These live sessions are customised for beginners in coding and are taken by experienced industry

trainers/experts. These sessions will cover the fundamentals of Python programming and will prepare you for the advanced programming concepts that you will be learning in the main curriculum.

2. **Additional Assessments:** In order to reinforce the learnings from the Bootcamp live sessions, a set of practice questions (~10 MCQs and 10 Coding) will be uploaded on the learner platform every week for you to practice. These assessments are accessible to only the learners enrolled in the Bootcamp. You will be expected to complete the questions on a weekly basis before attending the subsequent week's sessions. Note that these questions will not be graded.

Now, since the Bootcamp series demands extra effort and commitment, there will be certain expectations from the students enrolling. This has been discussed in the next section on this document.

Who Should Take the Bootcamp?

The Bootcamp and its features are primarily designed for learners who have **little or no prior coding experience**. Hence, these components will cover only the fundamentals of programming and will **NOT** cover any advanced concepts. The Bootcamp is also **not** meant for practising advanced concepts that are covered in the main curriculum. **We recommend you to assess the following points before opting in for the Bootcamp.**

1. Do you feel the concepts in Introduction to Python and Programming in Python are difficult to understand? Do attempt the self-assessment questions on the platform and see which of the three following categories you fall into:
   ○ If you have got less than two questions right in the above assessment, we strongly recommend you to opt for Bootcamp.
   ○ If you have got 2 to 3 questions right, you can get a feel of these questions as you go through this module. If you face difficulty in solving the questions even after completing the module, then you may want to opt for Bootcamp.

- If you have got more than three out of five questions right in the above assessment, then you need not take Bootcamp. But still, keep assessing yourself as you go through the module and if you feel you are facing difficulties in grasping the concepts or solving the questions, you may want to consider opting in for the Bootcamp.

2. Do you think you need more time practising coding and completing the modules?

3. Is your correct rate for the platform coding questions very low?

If you feel that the answer to any/all of the above questions is "yes", we recommend you to opt for the Bootcamp and we will work together with you to improve your coding skills. **In general, this Bootcamp is mainly recommended for non-tech learners who do not have prior coding experience or are facing difficulties coping up with programming. But irrespective of your background, if you feel that you need more time to learn and practise Python programming, we recommend you to join the Bootcamp. But just be informed that the Bootcamp will NOT cover any advanced programming concepts or questions.**

Expectations from the Learners Opting in for the Bootcamp

Once you opt-in for a Bootcamp, you are expected to be regular to live sessions and complete the weekly practice questions on the platform diligently. The practice assessments will be a mix of basic to intermediate level questions and some questions (about twenty per cent) might be challenging to solve. You will have one complete week to attempt these questions before the subsequent week's sessions. Hence, if you are stuck somewhere, you will be required to put effort into understanding the concepts through platform resources or by a simple google search on 'Stack Overflow'. The instructor will also address the practice questions for 30 mins in the next week's session so that you can resolve all your doubts related to them.

Every week you will have two live sessions to attend (3 hours each) and around 20 practice questions which will take about 4-6 hours to complete depending on each learner. Therefore, on an average, you will be required to commit 10-12 hours per week during the 3 weeks of Bootcamp.

Bootcamp Certificate

Since we have certain expectations from you if you enrol in the Bootcamp, you will also be rewarded if those expectations are met. We will be closely tracking the live session attendance and practice questions completion rates of the learners who are enrolled in Bootcamp. To acknowledge the Bootcamp learners' efforts who are diligently practising coding, we will be releasing leaderboard ranks intermittently based on the attendance and performance in the platform practice questions. In addition to that, if you meet the following criteria, you will be given a **Bootcamp Certificate**.

- Live Session Attendance* >80% (At least 5 out of 6 sessions to be attended)
- Practice Questions Attempt Rate >75%
- Practice Questions Correct Rate >50%

*Please note that the attendance for a live session will be counted only if you attend the live session for at least 50% of its duration.
We will be tracking the attendance and practice question progress and performance for each of the learners and at the end, the learners who meet all the 3 criteria given above will receive the **Bootcamp Certificate.**

If that's not enough reason to attend the sessions, in the previous Bootcamp batches, we have observed that the learners who are regular to the Bootcamp live sessions and complete the practice questions perform significantly better in the main program after the Bootcamp than those who are not regular to the live sessions and not completing the practice questions. The tables below show the comparison of median attempt and correct rates between the regular and irregular Bootcamp attendees for the 'Programming in Python' module after Bootcamp.

Bootcamp (Regular to Sessions)		Bootcamp (Not Regular to Sessions)	
Learner Background	Correct %	Learner Background	Correct %
Data	90%	Data	68%
Non-Tech	92%	Non-Tech	67%
Tech	93%	Tech	70%
Grand Total	90%	Grand Total	57%

Process for Opting In

Before we get to the process of opting in, the first step is to thoroughly read this document before you arrive at a decision. As you read in the previous section, opting in would ascertain certain expectations from you. Once you have all the information at hand, evaluate the usefulness of the Bootcamp w.r.t. your coding background and performance and decide whether this series is right for you. Following these steps will help you arrive at a final decision.

Your student mentor will be sending out a form on an email asking you to opt-in for the Bootcamp. You will be required to fill that form within the given deadline. *If you do not fill that form within the deadline, it will be assumed that you are not interested in opting in for the Bootcamp.*

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Calendar Overview

Please note that the following calendar provides a high-level and somewhat tentative overview of the actual calendar. Each of the sessions mentioned below will have a duration of 3 hours. *A few elements in the calendar agendas might be subject to change based on the responses the instructor gets during the bootcamp session.*

Weeks	Topic	Brief Agenda	Learning Outcome	Assessment
Week - I (Saturday)	Python Crash Course - I: Developing Logic in Programming	This session deals with how to break down a given problem and develop logic to solve it with the help of flow-charts.	To develop an intuition behind logic building in programming before diving deep into the implementation aspects of programming	MCQs - 15 Coding - 9
Week - I (Sunday)	Hands-on Session - I: Basic Python Syntaxes	In this session, learners will solve MCQ/coding questions on basic Python syntaxes - data types and operations, control structures.	To get familiarised with the syntaxes of Python programming	
Week - II (Saturday)	Python Crash Course - II: Data Structures & Programming Constructs (lists, dicts, sets, if statements, for loops)	Introductory session on Python data structures. The topics covered are: - Understanding Python Data Structures - Primitive and Non-Primitive Data Structures - List, Set, Tuples, Dictionary - Slicing and dicing - Functions like sort, append, update, insert etc.	To get a basic understanding of various data structures and programming constructs available in Python and their syntaxes.	MCQs - 15 Coding - 10
Week - II (Sunday)	Hands-on Session - II: Data Structures	In this session, learners will solve coding questions on Python data structures with the help of the instructor. The questions are based on the concepts taught in Saturday's live session.	To apply the concepts of data structures and logic building in solving a problem	

Week - III (Saturday)	Python Crash Course - III: I/O, Error Handling and Best Practices, Functional Programming (filter, map, reduce, lamdba)	This session covers lambda functions, list/dictionary comprehension, map, filter, reduce. The instructor will be starting off with the intuition behind each of them and solve some basic examples to demonstrate how it works .	1. To get a basic understanding of functional programming in Python by applying the concepts of data structures. 2. To compare and contrast among the functional programming methods	MCQs - 7 Coding - 6
Week - III (Sunday)	Hands-on Session - III: Functional Programming	Learners will be solving coding questions on functional programming with the help of the instructor. The questions are based on the concepts taught in Saturday's live session.	1. To develop an effective code using the concepts of functional programming and logic building to solve a given problem 2. To recall the concepts learnt during the entire bootcamp series by applying them together in solving questions	

Frequently Asked Questions

Q1. How many live sessions would be conducted during the Bootcamp and what will be the dates and time for the same?
Ans. A total of 6 live sessions will be conducted over 3 weeks. The exact time of the sessions will be notified to you via communication mailers.

Q2. Are the Bootcamp sessions conducted on weekdays?
Ans. Bootcamp sessions will be conducted ONLY on weekends. No sessions will be conducted on weekdays.

Q3. Why are any IIIT-B faculty not available to take the Bootcamp sessions?
Ans. The IIIT-B faculty will conduct specific sessions once the main program starts. The experts who will be conducting these sessions are well-versed with your expectations with a pedagogy that will ensure optimal learning.

Q4. Will we get a Bootcamp certificate?
Ans. Yes. You will be given a certificate of completion of the Bootcamp if you meet the following criteria.
- Live session attendance of >70%
- Practice questions attempt rate >80%
- Practice questions correct rate >50%

Q5. Will the IIITB certificate include this Bootcamp month?
Ans. The IIITB certificate will be awarded upon the completion of the entire program. There will be no separate mention of this Bootcamp.

Q6. What happens if I am not able to complete the Bootcamp?
Ans. There is *no penalty* for not completing the Bootcamp. It is optional and is an additional support feature to smoothen your learning journey ahead. For those of you who are completely new to programming, we strongly recommend you to attend these sessions.

Q7. Is the Bootcamp graded and are the grades included in the main program?
Ans. No, none of the components in the Bootcamp is graded.

Q8. What all would be taught in the Bootcamp sessions?
Ans. Kindly refer to the Bootcamp schedule. A detailed agenda will be shared with you before every live session.

Q9. What happens if I do not attend a few Bootcamp sessions?

Ans. The session recordings will be shared with you after every session. Since these sessions are interdependent, we strongly recommend you to attend all the sessions. In case you have missed any of the sessions, kindly go through the previous recording before attending the next session to be aligned with the session topics.

Q10. Can I continue the Bootcamp in parallel with my existing (the batch you're enrolled in) DS program?

Ans. No. The Bootcamp will require you to spend ~10-12 hours of dedicated time every week and will not be in sync with the topics covered in the ongoing program. This feature has been provided to ensure that you focus solely on building your programming fundamentals with sufficient time to practice these topics. Once you opt-in for Bootcamp, we would *move* you to the next batch of the Data Science program and you would start from the point where you left in the existing batch in the next batch once your Bootcamp ends.

Q11. How is Bootcamp going to help me if I am from a non-tech background?

Ans. The Bootcamp series is specially designed for someone who is new to programming, where you will start off with the very basics of programming and gradually build up your fundamentals. This will help you get better in the later parts of the program where you will be introduced to the advanced concepts. You can do a self-assessment of your performance in the first two weeks of the program. If you think you need more time and support to learn and practise coding, then you may want to make the best use of the Bootcamp opportunity to work on your coding skills.

Q12. How is Bootcamp going to help me if I am from a technical background, but I am keen to learn?

Ans. The Bootcamp series focuses on laying a solid foundation of Python programming skills. If you are someone with prior knowledge of programming (any language) and still find it difficult to understand the basic concepts (syntaxes, data structures, control structures) in Python you can opt for this Bootcamp. Please note that Bootcamp doesn't cover any advanced programming concepts so if you already have a good knowledge and understanding of programming, we would not recommend you to opt for Bootcamp.

Q13. What are the expectations from me in terms of time investment?

Ans. On an average, we recommend that you invest around 10-12 hours every week during the Bootcamp for attending the live-sessions and self-practice. The duration may vary depending on how quickly you are able to grasp the concepts.

Q14. Can I opt-out of the Bootcamp after the deferral?

Ans. No. You can choose to not attend the Bootcamp live-sessions but you will still be a part of the next cohort only. You are strongly advised to make the right choice before opting in.

Q15. Is the change in name of the programme to 'Executive PG Programme in Data Science' due to opting for the Bootcamp?

Ans. No. The program name has been changed to 'Executive PG Programme in Data Science' for the PG diploma program and 'Advanced Certificate Programme in Data Science' for the PG certification program irrespective of whether one has opted for Bootcamp or not and it will come to effect for all the batches that start from April 30, 2021. As you will be deferred from the March to April 30th batch upon opting for Bootcamp, your final course completion certificate will contain 'Executive PG /Advanced Certificate Program in Data Science' as your program name depending on the program you had opted for originally.