KWOC’ 19 final evaluation report

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Project contributed to : interview-preparation-kit

Motivation to contribute to the project : I am a senior at Netaji Subhas Institute of Technology and went through the campus placements this year. During the preparations for the same, I realised the importance of being able to reference different solutions in order to understand the requirements of the questions when we hit a block. Hackerrank’s interview preparation kit is one of the best resources used by students to prepare for placements, and being able to prepare a suite of solutions in different languages (mind you, many times the editorials are provided in only one language, which sometimes leads to a difficult situation for people coming from other language backgrounds to understand some edge cases that might not be explained in the editorial, and requires a deep dive into the code). This suite will help aspirants to have a better learning experience in their preparation for better jobs or in general being able to hone their skills in the language of their choice.

The interview-preparation-kit project is a suite of solutions to the problems in the hackerrank interview preparation kit in the most popular languages used today i.e. C++, JAVA, Python and Javascript.

Experience gained : My experience in collaboration in open source is fairly limited, although I have some experience on how version control systems like Git work. I also have some experience with the workings of github. So this project allowed me to get a better perspective on working in a collaborative environment on an open source project. At the beginning, I started with making a basic pull request to understand the expectations of the mentor. I understood the importance of documentation in any project. Readable documentation can be the difference which allows someone to use the product or not. I even created the chat room on gitter which was finally used as the main communication medium by the contributors of the project. In the process of adding solutions to the questions, I volunteered to review the PRs made by other contributors since I was one of the early contributors and knew the expectations of the project. The review process really allowed me to understand what is actually required of me as a contributor. Why clean code and proper communication matters. I also learnt how to guide beginners in the field to make their first contributions in open source, which was a great feeling. This experience gained in the KWOC has really motivated me to keep working in the field of open source in different projects aligning with my interests. I hope to be back next year, maybe in a different role. Thanks for providing me the opportunity to make my winter’s productive.

Summary of work done : I started by making a pull request with a solution to one of the questions in the array module of the kit. This pull request was my entry point to the project. The mentor of the project requested me to work on the documentation of the project by making the readme more attractive and more user friendly, which is what I spent the next few PR's on. This pull request provided a template for any contributor who was willing to contribute to the project. The contributor needed to add the solution source code file to the question they had solved in the designated folder and then had to mark the question as completed, and then provided a link for the same in the readme. My next few PRs revolved around adding support for C++ part of the suite wherein I individually covered around 50-55% of the required questions in C++. After that I started working on the review process since many PRs were being recorded in a day, and the mentor needed help reviewing the PRs. I was provided merge access to the repository by the mentor which allowed us to speed up the review process. I reviewed around 38 PRs for this project, wherein complete support was added for python, C++ and JAVA. Once we started closing in on the completion for these three languages, I proposed the addition of javascript as another mainstream language that this suite could support (JS wasn't initially a part of the project). This proposal was accepted and I started adding support for JS in my final PRs. Other contributors as well provided solutions for the same, and we have achieved 40% coverage for javascript in the suite.

Future of the project : Moving ahead, we plan to complete the javascript coverage and plan to discuss other languages that this suite can be extended to. We could even create a website for this suite with an explanation for the solutions used, which would allow for a more interactive experience for learners.

List of PRs opened with merge status:

1. #3 Merged:Added Array Manipulation Solution
2. #4 Closed : Renamed file and added two more solutions
3. #5 Merged : Refactored README, Added two more solutions, renamed earlier files
4. #6 Merged: Modified Readme, added solutions for greedy
5. #7 Merged: Corrected all links in readme and completed arrays codes
6. #8 Merged: Completed Dictionary and Hashmaps and updated README
7. #12 Merged: Added Solutions to Sorting, corrected dead link and removed fragments
8. #21 Merged: added solutions for string manipulation in cpp
9. #25 Merged: Added Search solutions
10. #55 Merged: Added cpp solutions for DP
11. #68 Merged: Added Java code for Sherlock and Anagrams
12. #71 Merged: added javascript column
13. #73 Merged: Added Javascript Column, made necessary changes to contribution procedure, and basic theme of the repo.
14. #74 Merged: Reverted JS column maintaining other readme changes.
15. #78 Merged: Added 2d array code for js
16. #79 Merged: Added js solutions for arrays

17. #91 Merged: Added solutions to Dictionaries and Hashmaps in JS

List of PRs reviewed with merge status:

1. #10 Closed : Added questions for Dictionaries and Hashmaps
2. #23 Merged: Java solutions for warm-up challenges
3. #26 Merged: Solved Search questions
4. #28 Merged: Added C++ Solutions for Warm Up Challenges
5. #34 Closed : Added InsertNodeAtSpecificPosition.cpp in C++ language
6. #35 Closed : Added Fibbonaci_Numbers.py
7. #36 Closed : Linked List
8. #37 Closed : Bubble Sort in Java
9. #40 Closed : Added Minimum Swap 2 in Java
10. #42 Merged: Created Primality.cpp and updated Readme
11. #44 Merged: Added question in Greedy Algorithm and corrected link for Stacks and Queues
12. #53 Merged: added solutions for linked list in cpp
13. #54 Merged: Uploaded Dynamic Programming Solution in C++
14. #56 Merged: Added Miscellaneous problems in C++
15. #57 Merged: Uploaded Hash Tables in Python
16. #58 Merged: Added Abbrevation in python
17. #59 Merged: Added codes for Trees, Stack and Queues. Corrected Link for Linked List.
18. #60 Merged: Updated Making Candies in C++
19. #61 Closed : Added Stack and Queues solution in C++
20. #62 Closed : Added Trees : Height of Binary Tree in CPP
21. #64 Merged: Added two more programs
22. #65 Closed : Added Fibonacci_numbers.java
23. #66 Closed : Update README.md
24. #67 Closed : added code for Balanced Forest and solved issue #63
25. #69 Merged: Birthday Cake Candle.cpp
26. #70 Merged: Fibonacci_numbers.java and alternating_characters.java
27. #75 Merged: added code for Tree/BalancedForest.cpp, solved issue #63 and updated file for added code
28. #77 Merged: added code's file for Search/Swap Nodes [Algo] and updated README.md file
29. #81 Merged: added codes for Miscellaneous, Recursion and Backtracking, Tress and Graphs in java
30. #82 Merged: solved Birthday Cake Candles from warm up challenged in python
31. #83 Closed : Pairs.java
32. #84 Merged: Added code for Birthday Cake Problem in Java, and updated the solution for same problem in python in O(n) complexity
33. #86 Closed : Updated warm up challenges in C

34. #87 Merged: Added solution for Frequency Queries in Java in Dictionary and Hashmaps category
35. #88 Merged: Solved Problem 'Making Anagrams' in String manipulation section in JAVA
36. #89 Closed : Added Java solution to is this a binary search tree
37. #98 Closed : Added solution for Maximun Absolute Difference Array in JAVA from Greedy Algo problem
38. #100 Closed : Solved Search problems in Java :-)
39. #104 Merged: added all codes for warm up challenges, dictionaries and hashmaps, sorting, string manipulation and greedy algorithms