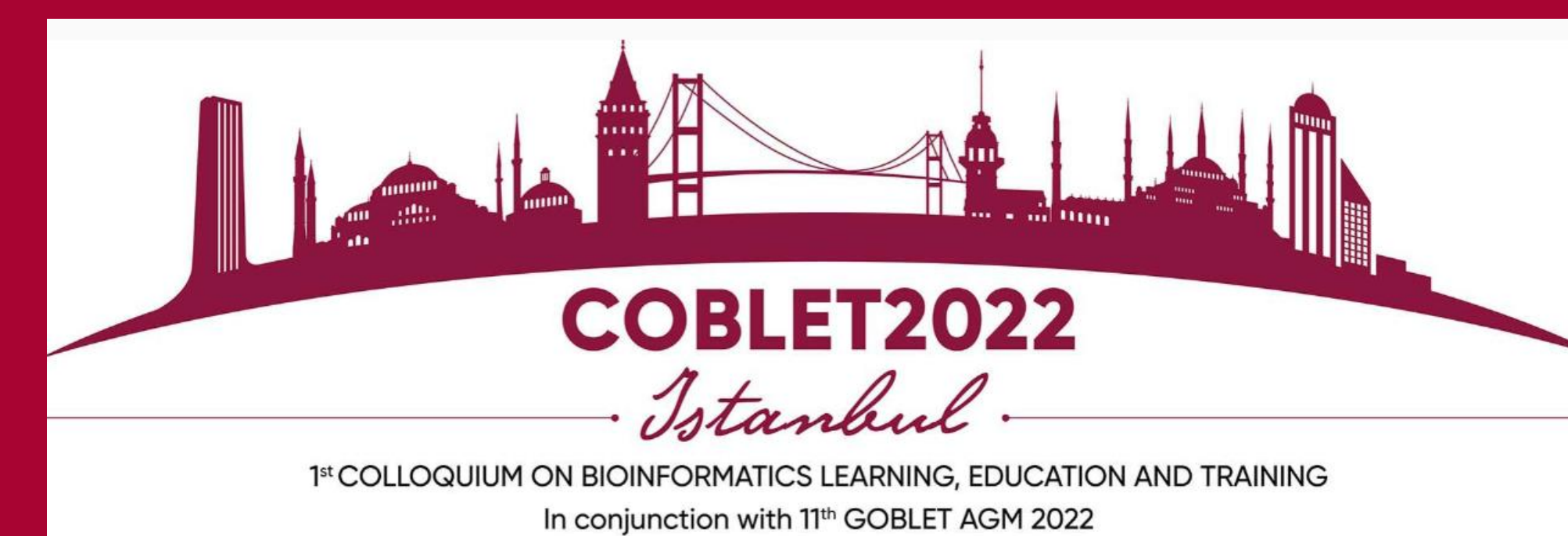# BIOINFORMATICS WORKSHOP FIESTA 2020/22: INTRODUCTION TO PYTHON

Aakib Bin Nesar, Department of Electrical and Computer Engineering, North South University, Dhaka, Bangladesh.

COBLET2022
Istanbul
1st COLLOQUIUM ON BIOINFORMATICS LEARNING, EDUCATION AND TRAINING
In conjunction with 11th GOBLET AGM 2022

INTRODUCTION

Did you know that python has a data structure called *Dictionary* that can be used to build a RNA Codon table?

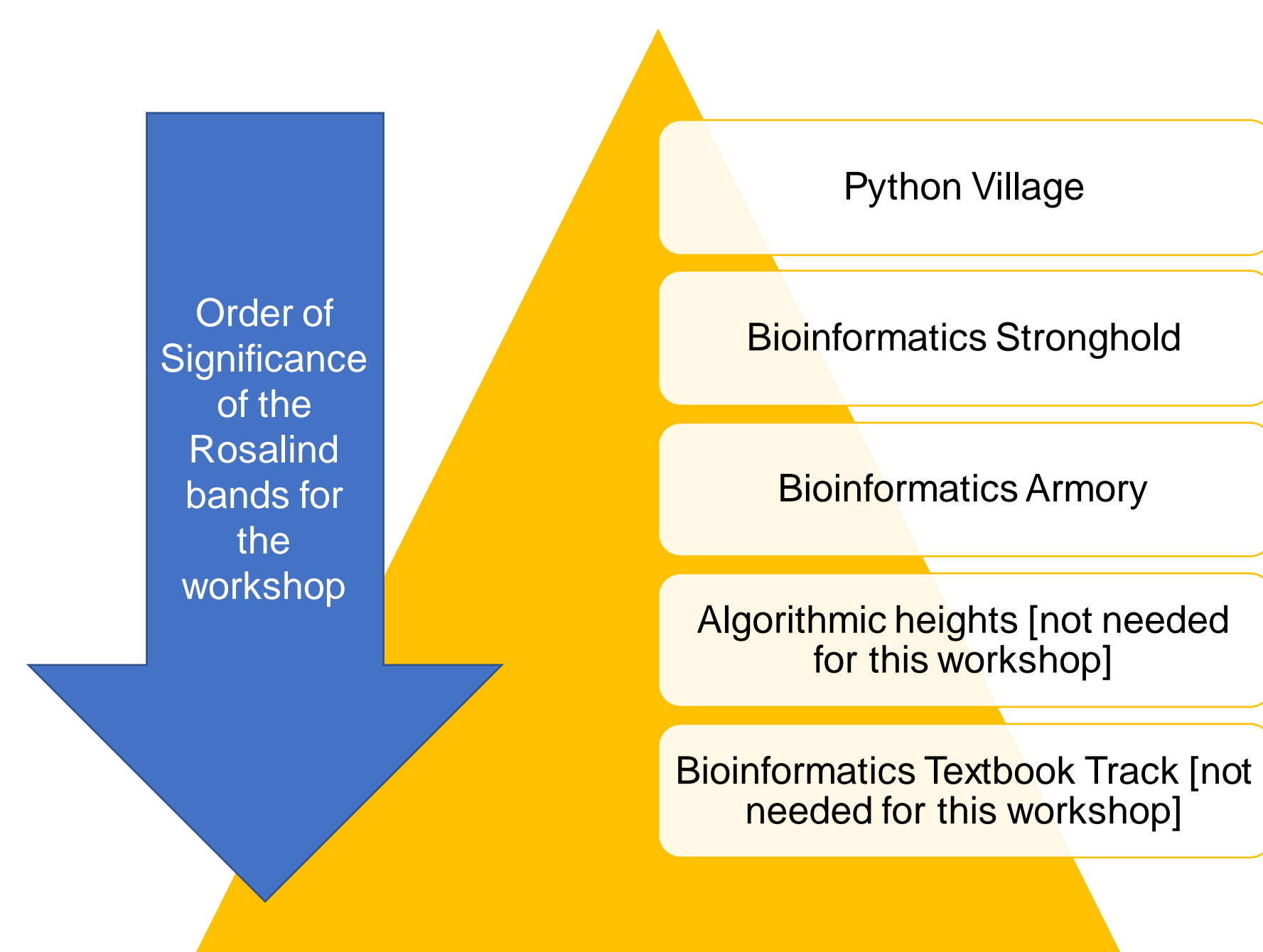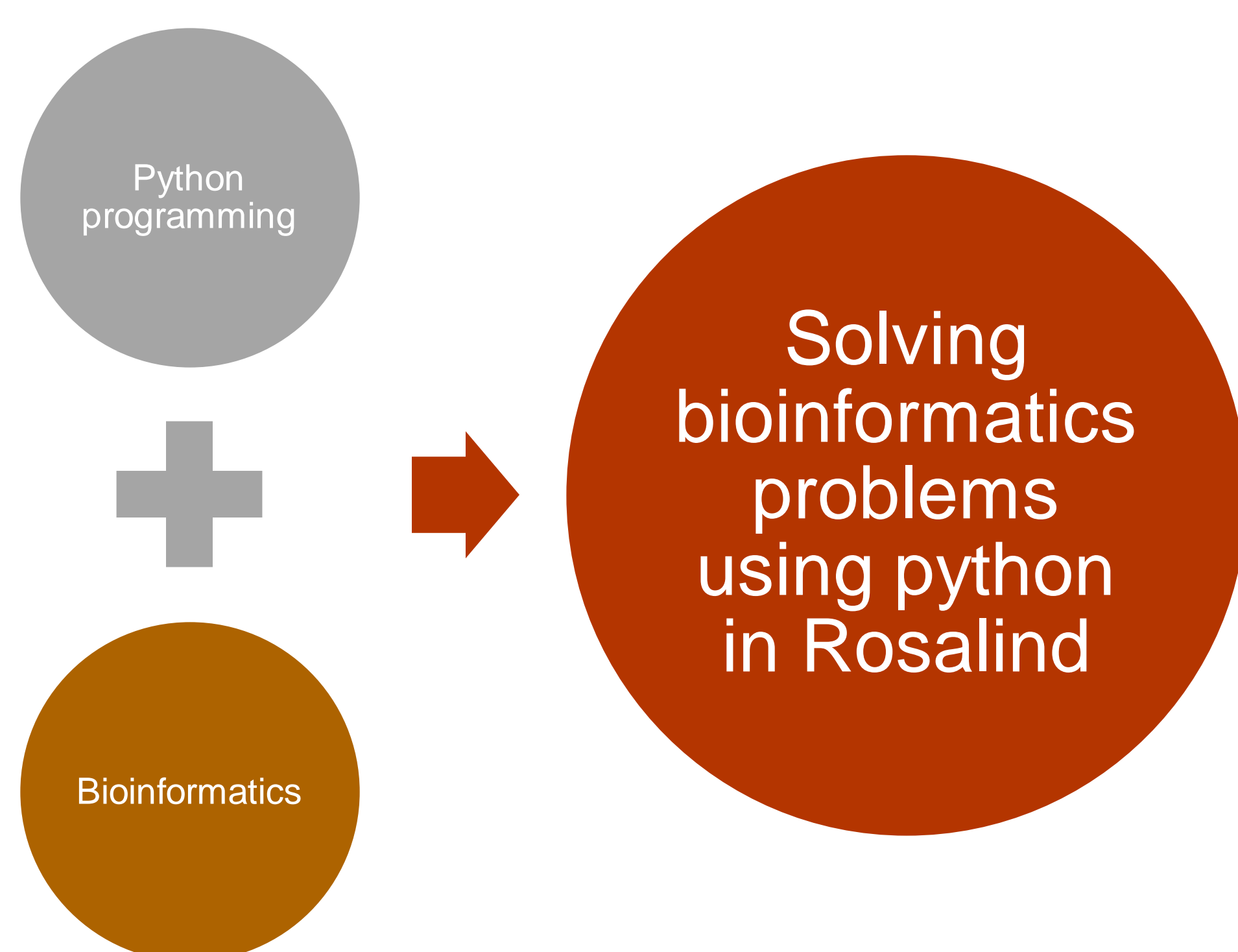Instructor, Organizers and Participants of the Workshop

WHAT DOES BIOINFORMATICS MEAN TO YOU?

- In depth analysis of huge amount of biological data
- To improve my skill as a biologist
- It's means a lot to me as I want to make my career into it

THE MAIN IDEA BEHIND THE WORKSHOP

Python programming + Bioinformatics → Solving bioinformatics problems using python in Rosalind

Order of Significance of the Rosalind bands for the workshop
- Python Village
- Bioinformatics Stronghold
- Bioinformatics Armory
- Algorithmic heights [not needed for this workshop]
- Bioinformatics Textbook Track [not needed for this workshop]

ONLINE WORKSHOP
Introduction to Python

8 Sessions | 31 October - 19 December 2020 | Every Saturday | 13:00 - 17:00 (GMT+8)

BWF Pathway: Essential

Topics covered
- The concept of programming language
- Introduction, variable and expressions
- Flow control
- Repetition
- Input/ Output
- Method, Biopython
- Biopython I
- BioPython II

Start date pushed to 31 October 2020

Learn more at http://www.ambis.org.sg/introduction-to-python.html

Instructor
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No. 1 Rosalind Bioinformatics Programmer in Bangladesh

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Organized by: APBioNET, AMBIS, PERDANA UNIVERSITY SCHOOL OF DATA SCIENCES   Supported by: NSCC National Supercomputing Centre, ALTERQUO

Poster of the Workshop

HIGHLIGHTED FACTS AND EXPECTATIONS FROM THE WORKSHOP

- This workshop inaugurated Bioinformatics workshop fiesta (BWF 2020/22), which was organized by the Asia-Pacific Bioinformatics Network (APBioNET), Association for Medical and Bioinformatics, Singapore (AMBIS), Perdana University, Malaysia and Bezmialem Vakif University, Turkey.
- Participants from countries such as Malaysia, Singapore, Indonesia, Japan, India, Poland and Nigeria took part in this workshop.
- Participants had a background either in Biology, Environmental Engineering and Biochemistry.
- In a total of 10 participants, this was the first time for 6 participants to learn about Bioinformatics.
- The expectations of the participants before joining the workshop was to learn the basics of python, biopython as well as bioinformatics skills.
- After the workshop, it was seen that their expectations were met as all of them were now comfortable in programming with python especially due to the exposure to the real world problems from Rosalind.

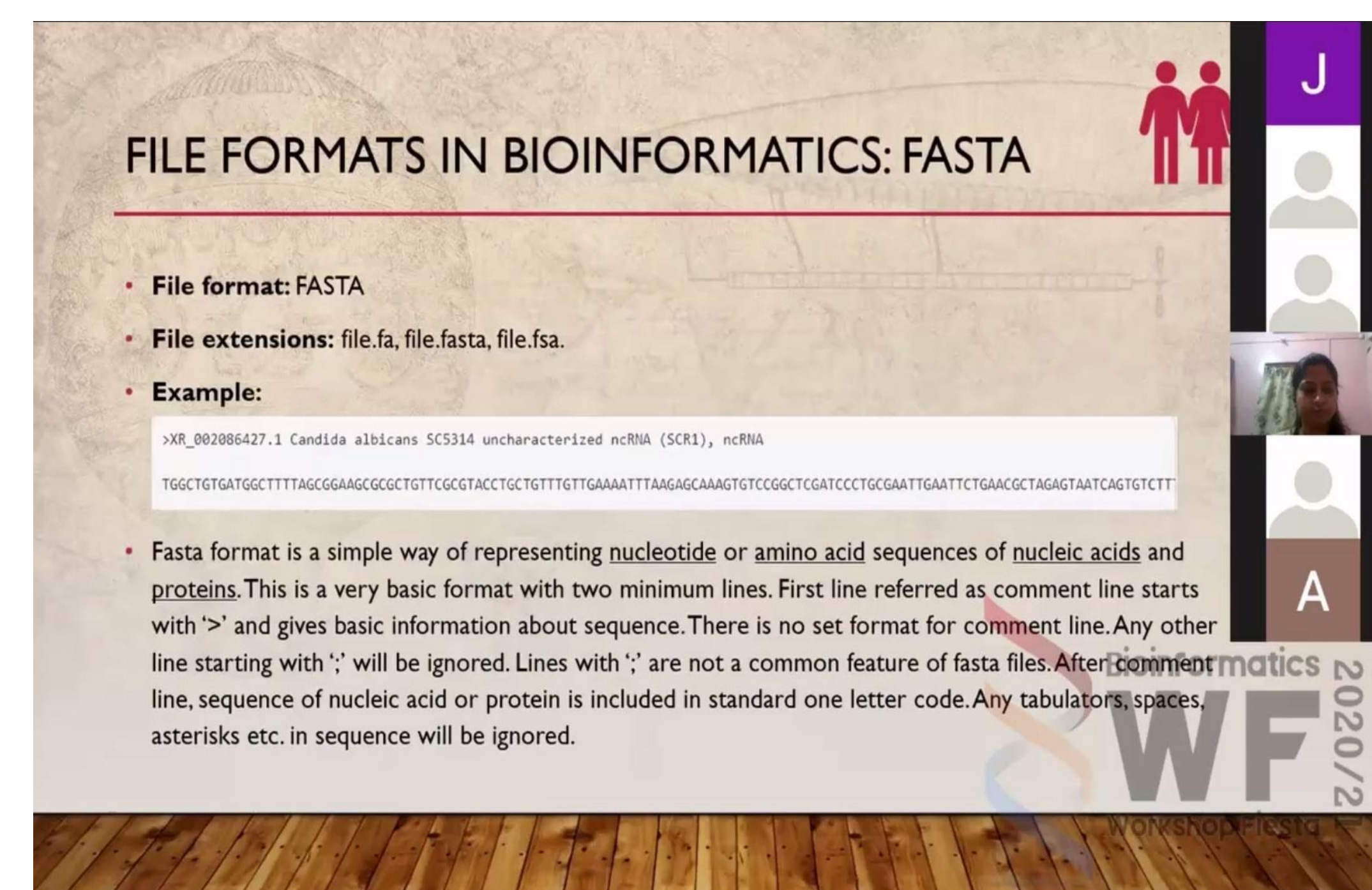## THE VIRTUAL PLATFORM USED (E.G. ZOOM AND DISCORD) WAS SATISFACTORY FOR THE ONLINE WORKSHOP?

Overall Rating: 4.8/5

LECTURE POLICIES FOR A TOTAL OF 8 SESSIONS

Session A: Power-point lecture presentation of the sessions topic

Session B: Live coding using Python IDEs.

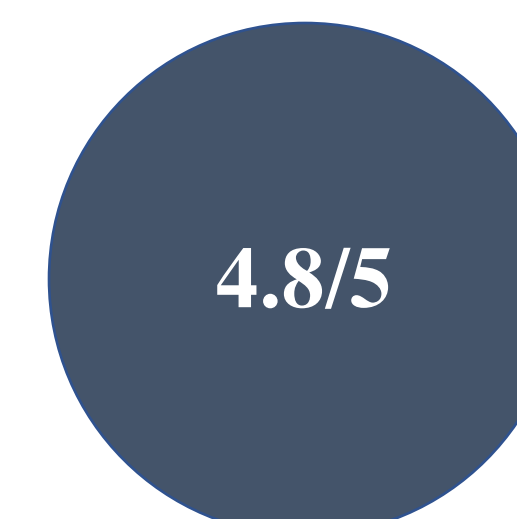Home-task: Solving Rosalind problems using the session's knowledge and skills.

Lecture slide on FASTA files

SUCCESS OF THE WORKSHOP

1. THIS WORKSHOP STIMULATED MY INTEREST IN THE TOPIC

Overall Rating: 4.8/5

2. WHAT DID YOU LIKE BEST ABOUT THIS WORKSHOP?
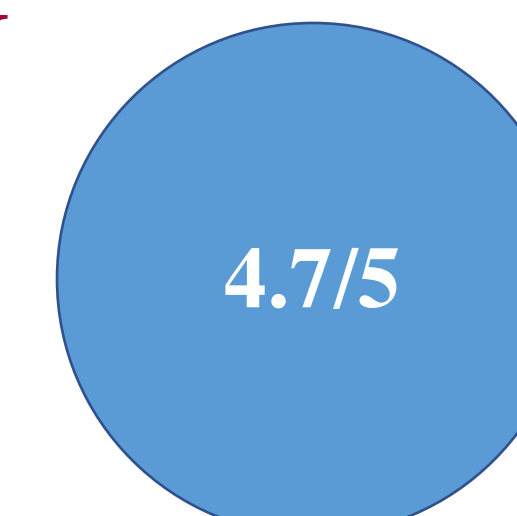
- Able to learn how to code.
- I like the explanation of biopython the most.
- The fact that Rosalind was used for the home tasks, it really gave an incentive to work on the topic.
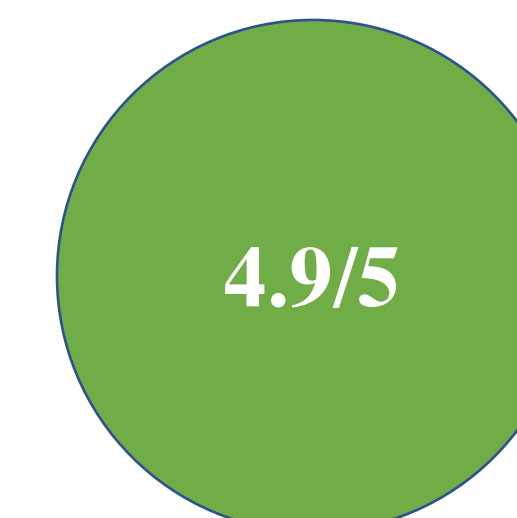- Learning and interaction between instructor and students.

3. THIS WORKSHOP HAS ENCOURAGED INDEPENDENT LEARNING

Overall Rating: 4.7/5

4. OVERALL, HOW DO YOU RATE YOUR EXPERIENCE WITH THIS WORKSHOP

Overall Rating: 4.9/5

ACKNOWLEDGEMENTS

Dr. Mohammad Asif Khan → The organizing team of APBioNET → Participants of the workshop