TEAM LEAD VERSION (TW-2)

TEAMWORK

CLARUSWAY
WAY TO REINVENT YOURSELF

Meeting Agenda

- ▶ Icebreaking
- ▶ Questions
- ▶ Interview Questions
- ▶ Coffee Break
- ▶ Logical Reasoning Questions
- ▶ Video of the week
- ▶ Retro meeting
- ▶ Case study / project

Teamwork Schedule

Ice-breaking 10m

- Personal Questions (Stay at home & Corona, Study Environment, Kids etc.)
- Any challenges (Classes, Coding, studying, etc.)
- Ask how they're studying, give personal advice.
- Remind that practice makes perfect.

Ask Questions 15m

1. What do we mean by Computational Thinking?

A. Breaking a task into smaller tasks
B. Understanding a complex problem and developing possible solutions
C. Focusing on what is important, ignoring what is unnecessary
D. Selecting a computer to use

Answer: B

2. Breaking a complex problem down into smaller problems and solving each one individually?

A. Programming
B. Decomposition
C. Abstraction
D. Algorithmic Thinking

Answer: B

3. Why do we need to think computationally?

A. To help us to think like a computer
B. To help us program
C. To help us solve complex problems more easily
D. None of these

Answer: C

4. What is an Algorithm?

A. Some instructions
B. Something a computer does to think
C. A series of steps and instructions with given outputs to produce an input
D. A series of steps and instructions with given inputs to produce an output

Answer: D

5. What is the result of the following operation?

```
print(1 + 4*3)
```

A. 15
B. 13
C. 12
D. 10

Answer: B

6. Which python code gives the output "I love Python" ?

A. input("I love Python")
B. output("I love Python")
C. read("I love Python")
D. print("I love Python")

Answer: D

7. Guess the output of this code:

```
print( (3**2)//2 )
```

A. 0
B. 2
C. 4
D. 3

Answer: C

8. What symbol(s) do you use to assess equality between two elements?

A. &&
B. ==
C. =
D. ||

Answer: B

9. What value would be returned by this check for equality?

```
5!=6
```

A. Yes
B. False
C. True
D. None

Answer: C

10. Select option that print?

```
hello-how-are-you
```

A. print('hello', '-how', 'are', '-you')
B. print('hello', 'how', 'are-', 'you' + '-' * 4)
C. print('hello-' + 'how-are-you')
D. print('hello' + '-' + 'how' + '-' + 'are' + 'you')

Answer: C

Interview Questions 15m

1. What does computational thinking stand for and why it is important?

Answer: Computational thinking is a way of solving problems, designing systems, and understanding human behavior that draws on concepts fundamental to computer science. To flourish in today's world, computational thinking has to be a fundamental part of the way people think and understand the world.

Computational thinking enables us to solve any given challenge through an analytical and methodical approach. Put simply, computational thinking teaches students to process information like a computer would. It guides students through a series of steps, similar to an algorithm, to solve open-ended problems.

2. What are the key features of Python?

Answer:

- Python is an interpreted language. That means that, unlike languages like C and its variants, Python does not need to be compiled before it is run. Other interpreted languages include PHP and Ruby.
- Python is dynamically typed, this means that you don't need to state the types of variables when you declare them or anything like that. You can do things like x=111 and then x="I'm a string" without error.
- In Python, functions are first-class objects. This means that they can be assigned to variables, returned from other functions and passed into functions. Classes are also first class objects Writing Python code is quick but running it is often slower than compiled languages. Fortunately， Python allows the inclusion of C based extensions so bottlenecks can be optimized away and often are. The numpy package is a good example of this, it's really quite quick because a lot of the number crunching it does isn't actually done by Python.
- Python finds use in many spheres – web applications, automation, scientific modeling, big data applications and many more. It's also often used as "glue" code to get other languages and components to play nice.

3. How memory is managed in Python?

Answer: Python memory is managed by Python private heap space. All Python objects and data structures are located in a private heap. The programmer does not have an access to this private heap and interpreter takes care of this Python private heap. The allocation of Python heap space for Python objects is done by Python memory manager. The core API gives access to some tools for the programmer to code. Python also have an inbuilt garbage collector, which recycle all the unused memory and frees the memory and makes it available to the heap space.

4. What are the four stages of computational thinking?

Answer:

- Decomposition: Decomposition is to break down a complex problem or system into smaller, more manageable parts.
- Pattern Recognition: Pattern recognition is looking for patterns and sequences.
- Abstraction: Abstraction is focusing on the important information only, ignoring irrelevant detail.
- Algorithms: Using algorithms you develop a step-by-step solution to the problem, or the rules to follow to solve the problem.

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Coffee Break **10m**

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Logical Reasoning Questions 15m

1. Five children are sitting in a row. S is sitting next to P but not T. K is sitting next to R who is sitting on the extreme left and T is not sitting next to K. Who are sitting adjacent to S?

A. K & P
B. R & P
C. Only P
D. P and T

Answer: D

- S is sitting next to P . So the order S,P or P,S is followed. K is sitting next to R. So, the order R, K is followed because R is on the extreme left. T is not next to P or K. So the arrangement will be R, K,P,S,T. Clearly, P and T are sitting adjacent to S.

2. 16 22 34 58 106 ...

A. 212
B. 156
C. 200
D. 202
Answer: D

3. 259 131 67 35 19 ...

A. 13
B. 11
C. 9
D. 7

Answer: B

Video of the Week 10m

- Computational Thinking: What Is It? How Is It Used?

Retro Meeting on a personal and team level 10m

Ask the questions below:

- What went well?
- What could be improved?
- What will we commit to do better in the next week?

Closing 5m

- Next week's plan
- QA Session
