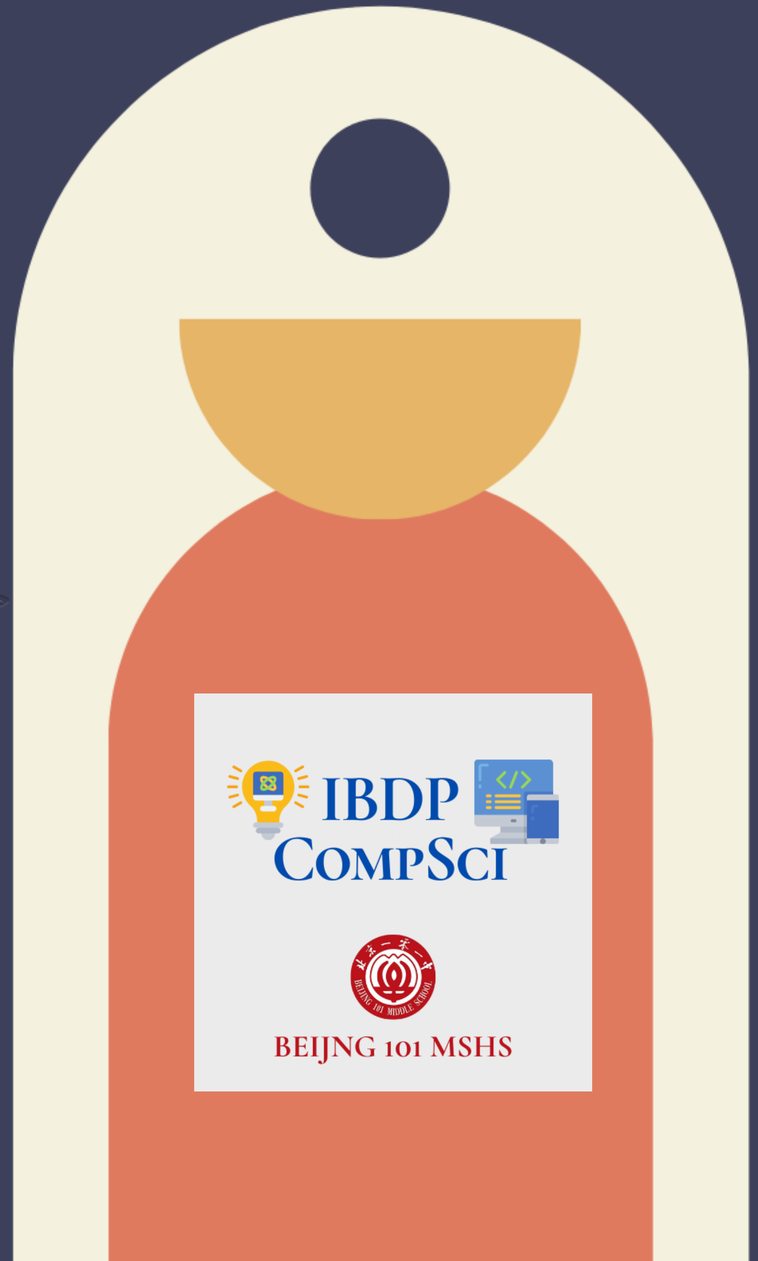
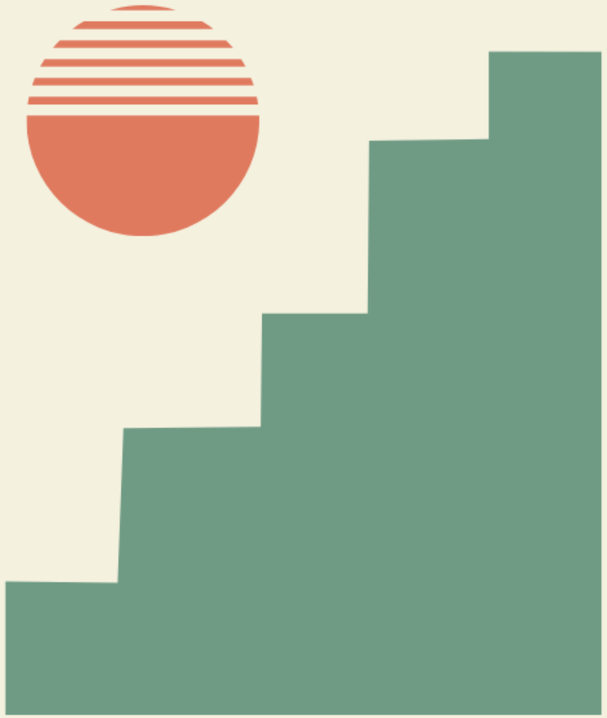
Welcome to Computer Science ***IBDP***

Beijing 101 Middle/High School





Last Week's Task

What is an IDE and why do we really need it?

Use the internet or any resources to answer the above question.

Task points: 10.
1 extra point if you can quote a reliable source.

Highlights from Last time

♥ Getting Familiar with the course layout.

♥ Experiences from the past students.

♥Planning ahead to score great.

Today

- Introduce our first Unit for the course.
- Complete the activity from last time.
- Do some real activity on the topic.

Computational Thinking Topic 4

What is Computational Thinking?

What is Computational Thinking?

Let’s find out. Take 5 minutes to research on what computational thinking is!

Computational Thinking

- an Ordered Way of Thinking That Enables Users to Solve Complex Problems

- no single agreed-upon definition of “Computational Thinking,” but in essence it involves the use of specific strategies and tools to solve complex problems

Hebert A. Simon declares 3 steps of decision making:

- Intelligence Gathering
- Design
- Choice

Mintzberg argues 3 steps of decision making:

- Identification
- Development
- Selection

Computational Thinking and decision making.

Hebert A. Simon

- Intelligence Gathering
- Design
- Choice

Look Alike?

Mintzberg

- Identification
- Development
- Selection

Steps of decision making:

Identification	Identify the problem Understand the problem Formulate the problem
Development	Explore various alternatives
Selection	Choose the best alternative
Implementation	Implement the selected solution

Can all problems be solved?

Can all problems be solved?

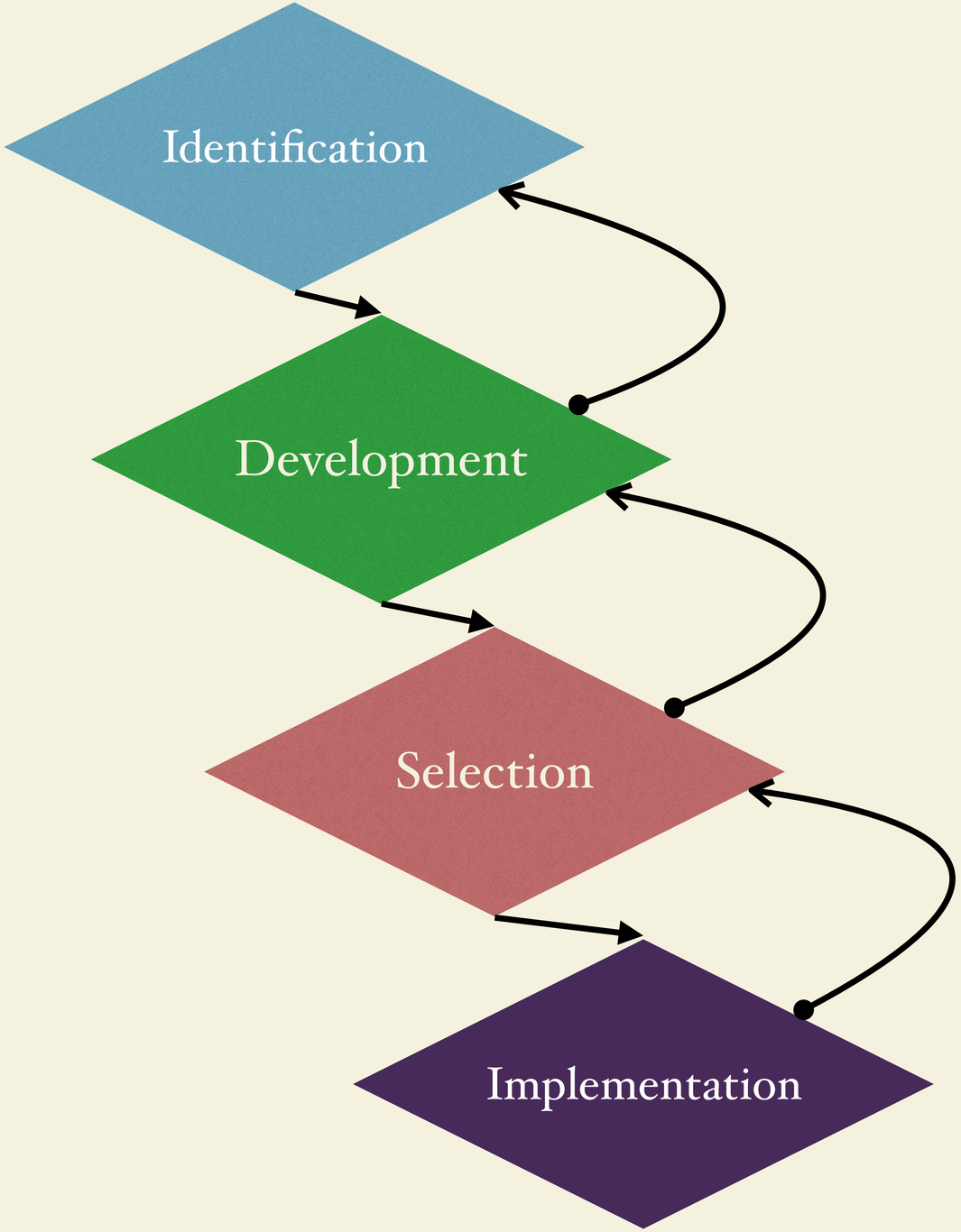
No they cannot!

Give us some examples of problems we can not solve!

3/2?

2/0?

33/23


Identification
Development
Selection
Implementation

Ever heard of CAPTSHA
What does it mean?

C	A	P	T	S		H	A
COMPLETELY	AUTOMATED	PUBLIC	TURING	TEST	TO TELL COMPS &	HUMANS	APART

How would Captcha work? Lets write a brief account on how CAPTSHA would work on your understanding!
100-200 words

For a computer, Which of the two would be easier to find solutions for?

A program that:

Calculates probability of earth quack in USA in the next 34 minutes?

Gives an output for “Hello world”

Why?

For a computer, Which of the two would be easier to find solutions for?

A program that:

Calculates probability of earth quack in USA in the next 34 minutes?

According to Google: Returns 72,200,200 Results and takes 4178 days reading for 10 seconds, Half of the results.

Gives an output for “Hello world”

According to Google: Returns 1,280,000 Results and will give you the desired answer on the first link.

All IBDP CS Problems will be solvable completely.

Lucky You!

Algorithms

What are Algorithms?

What are Algorithms?

Problems?

What are Algorithms?

Problems?

Solutions?

What are Algorithms?

Problems?

Solutions?

What are Algorithms?

Steps taken to Solve problems!

Knuth Suggests that an Algorithm must have:

- Finiteness
- Definiteness
- Input
- Output
- Effectiveness

Knuth Suggests that an Algorithm must have:

- ♥ Finiteness
- ♥ Definiteness
- ♥ Input
- ♥ Output
- ♥ Effectiveness

Take 2-3 minutes to read page 177 of your Book.

Lets write an algorithm of your Monday at BJ101

Use any method you like!

Thank you and see you next time.