Tasks T1 – T7 carry 3 points each

T1. Beaver Salon

Four stylists work at Beaver Salon: Irina, Ajani, Zuri, and Pia. Each stylist can perform three services, each taking a different amount of time to complete.

SERVICE	TIME
Fur Fluff	5 minutes
Teeth Sharpening	8 minutes
Tail Polish	15 minutes

Each stylist has just started working on a beaver as shown. As soon as stylists finish, they work on the next beaver waiting in a line.
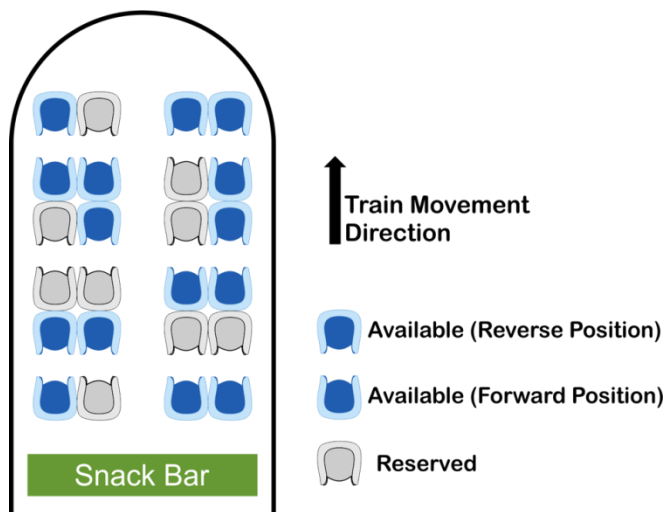

Question / Challenge

Obi is waiting for a tail polish. Which stylist will work on Obi?

A) Irina   **B)** Ajani   **C)** Zuri   **D)** Pia

T2. Train Ticket Reservation

Alex and Bob decided to go on a train trip this weekend. When they accessed the train reservation software to book train tickets, the following screen appeared.
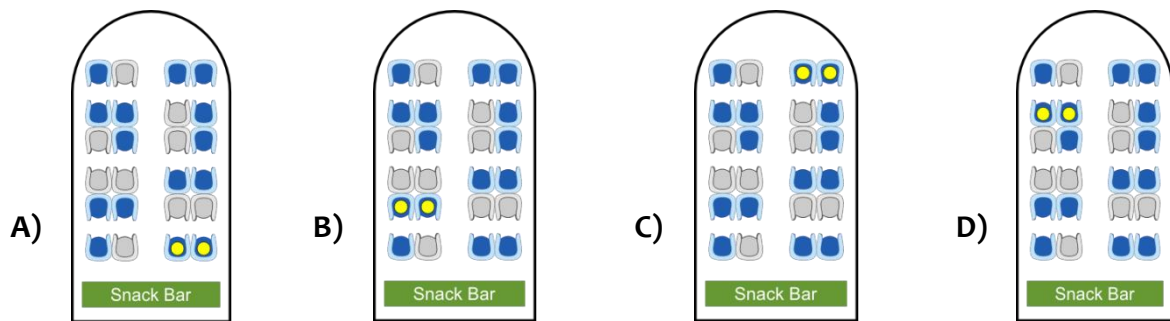
Here is what Alex and Bob should consider to book the tickets:

- Reserved seats cannot be selected.
- Alex and Bob want to sit next to each other.
- Alex wants to sit in the forward position because of motion sickness.
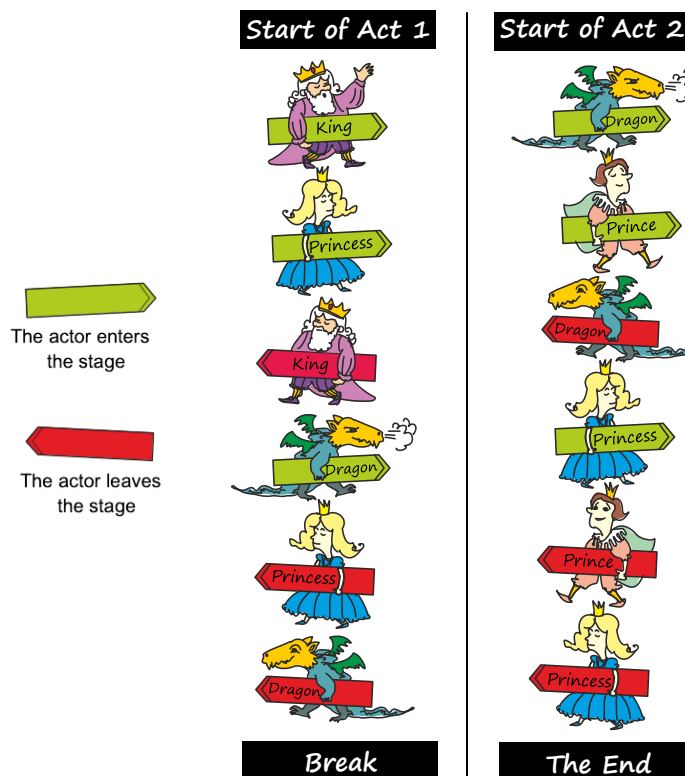- Bob wants to sit as close as possible to the snack corner.

Question / Challenge

Which seats can satisfy both Alex and Bob's considerations?

A)   B)   C)   D)

T3. Theater performance

The actors in a fairy-tale play enter and leave the stage according to the order shown in the picture (from top to bottom). The play has two acts and a break between the acts.
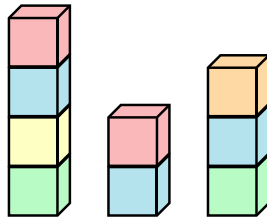

Question / Challenge

Which statement is **not true**?

A) The prince and the princess were together on the stage
B) The king and the dragon were together on the stage
C) The prince came to the stage after the break
D) The prince and the dragon were together on the stage

T4. Towers of Blocks

Sam, the little beaver, is playing with his toy blocks. He built three beautiful towers, each one made with a pile of blocks of the same size:

He noticed that one of the towers is higher than the other two. He now wants to add more blocks to the other two towers to make them as high as the tallest one, but he is not sure how many blocks he will need.
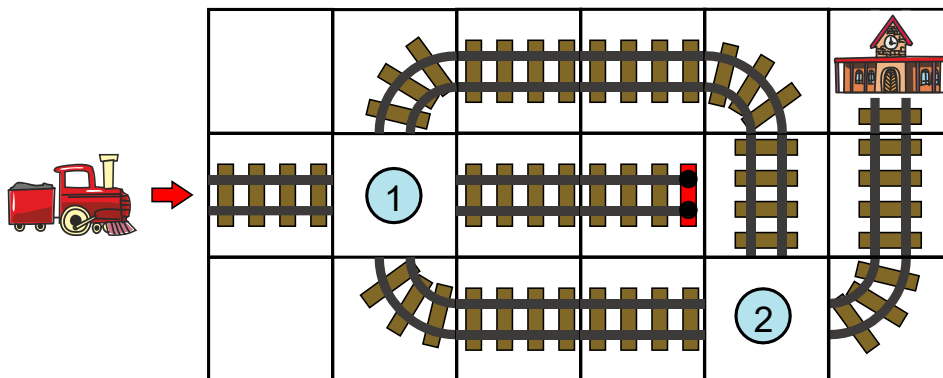
Question / Challenge

Without moving any of the blocks shown in the figure, what is the smallest number of blocks Sam needs to add in order to make all towers of the same height?

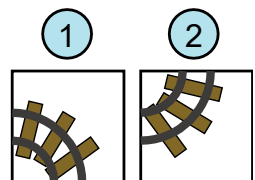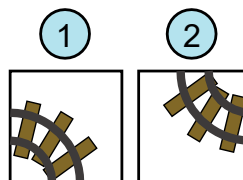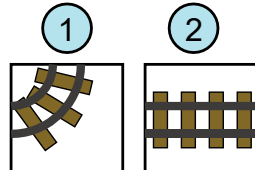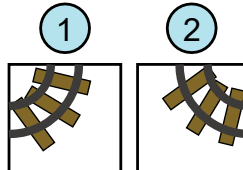**A)** 1   **B)** 2   **C)** 3   **D)** 4
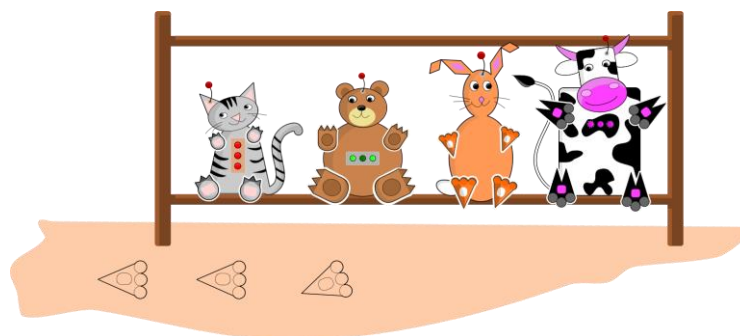
T5. Train Tracks

Can you help guiding the train to the station?

Question / Challenge

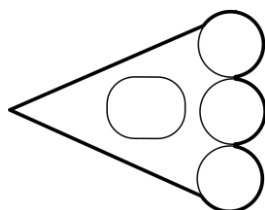Which of the following choice of tracks for each position would make the train arrive safely to the station?
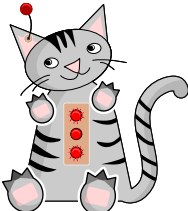
T6. Footprint

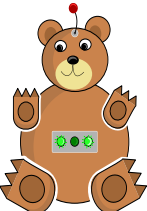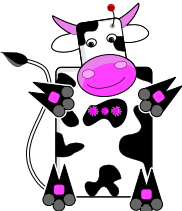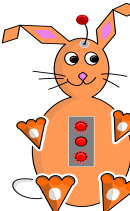There are four robot animals in a shop.

One robot animal has secretly walked around the shop at night. There was a trail of footprints left on the floor.

Question / Challenge

Whose footprint is this ?

A)   B)   C)   D)

T7. Bear Selection

Ren is allowed to bring one of his teddy bears to school for show and tell.

Question / Challenge

Ren chooses a bear that has a star on its foot, and is wearing a scarf or a bow, but not glasses. Which bear does Ren choose?


A)   B)   C)   D)

Tasks T8 – T14 carry 4 points each

T8. Object Sorter

Bora used a flowchart to organize her clothes into three different drawers. She started at the top of the flowchart by selecting an item. She then followed the arrow until it reached a question. She then decided if the answer was "yes" or "no" and followed the arrow that matched her answer.

She continued to ask questions and follow arrows until the flowchart arrived at a drawer. She placed her item inside the drawer and started over again at the top of the flowchart with a new item until all her clothes were organized.
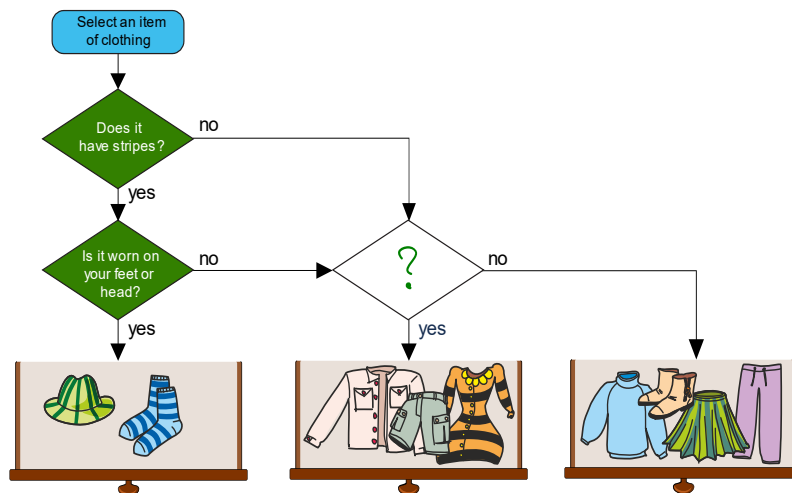
Question / Challenge

If her clothes are organized into the drawers as shown, which question (⬦?) is compatible with the result of the flowchart?

A) Does it have long sleeves?   **B)** Does it have buttons?
C) Does it have a zipper?   **D)** Does it have a pocket?

T9. Moving Plates

Who is on duty to clean the kitchen today? The nickname of the person is hidden in the white plates and blue cups on the table. Find the nickname by following this instruction:

Do this once with each plate:
    If the plate is not next to a cup (on the left or on the right), move the plate to the next square on the right.

Time Allowed: 120 minutes
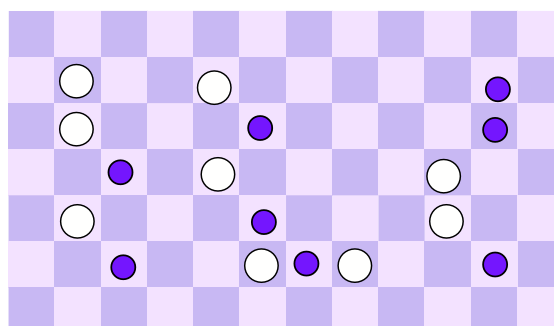
Question / Challenge

Which are the three letters of the nickname?

**A)** ILI   **B)** ELI   **C)** ILE   **D)** TIL

T10. Sprinkler

Beaver Bob planted some flower-beds in his square-grid garden (see the figure below on the left). To make sure each flower-bed gets enough water, Bob decides to place some sprinklers at the empty squares of his garden. Each sprinkler can water all flower-beds in the eight squares next to it, as you can see in the picture below on the right.
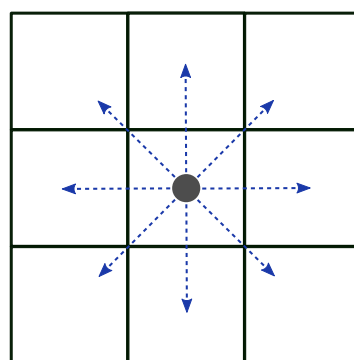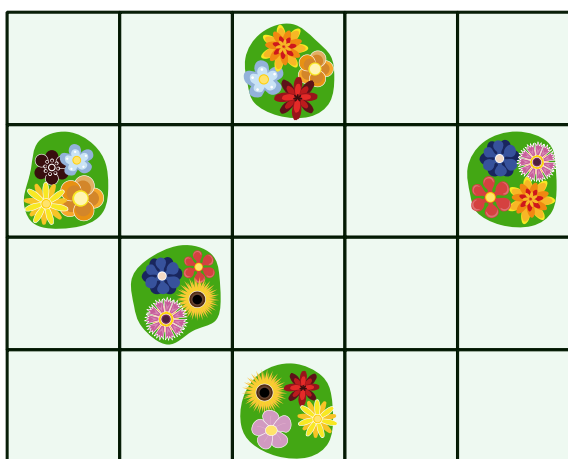
Question / Challenge

Which is the figure that uses the minimum number of sprinklers needed to water all the flower-beds?

A)

B)

C)

D)
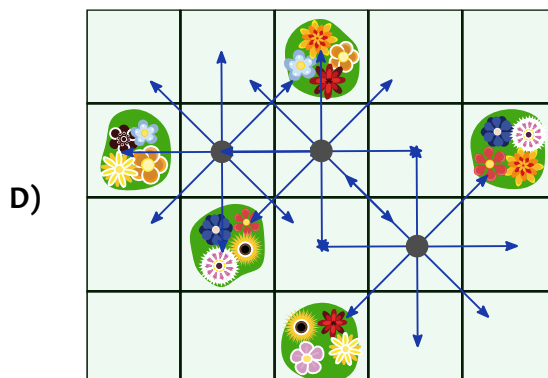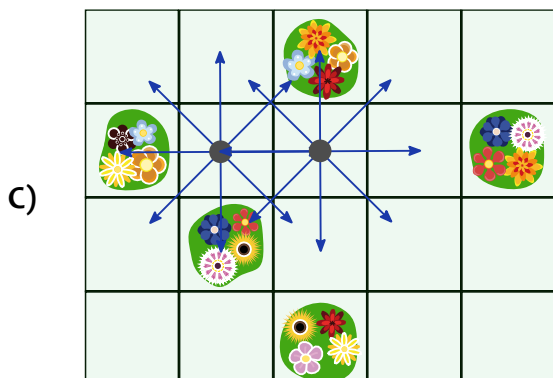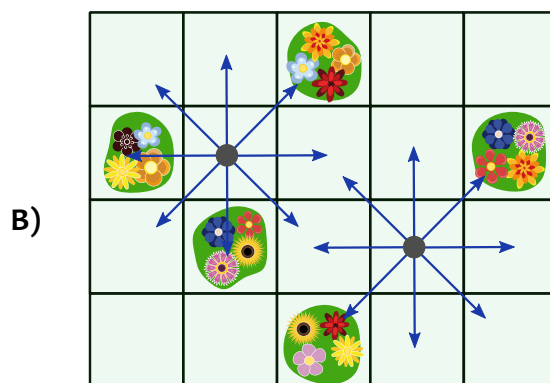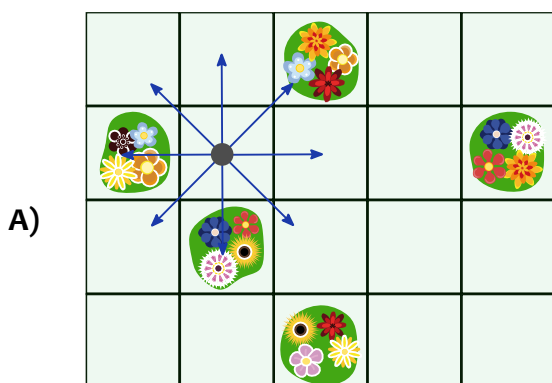
T11. Connect the Dots

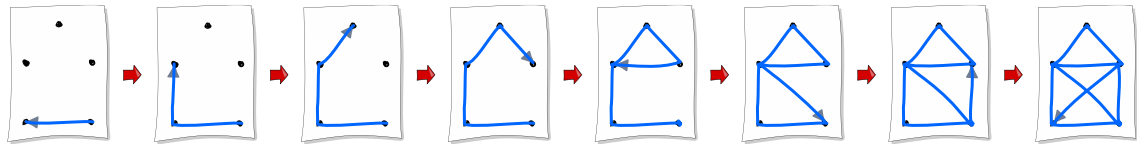You want to draw pictures without lifting your pen. You create your pictures by drawing lines from one point to the next. However, you can never draw the same line segment more than once.

For example, you can draw a picture of a house in one continuous motion using the following sequence of steps:
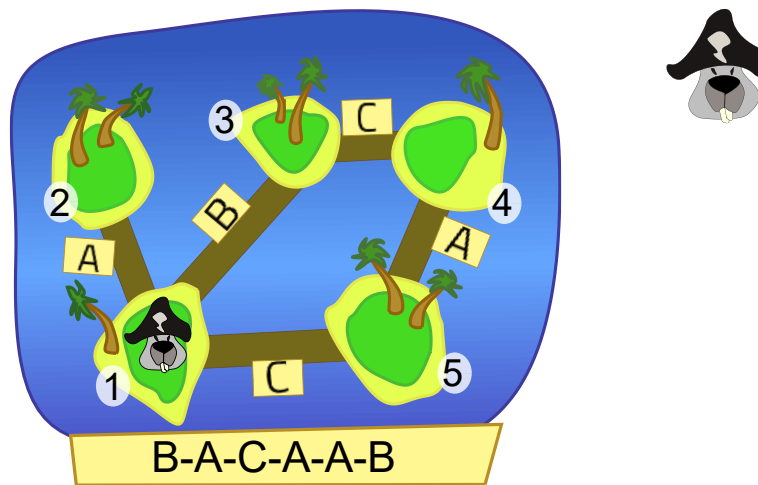

Question / Challenge

Which of the following pictures can you also draw?

A)   B)   C)   D)
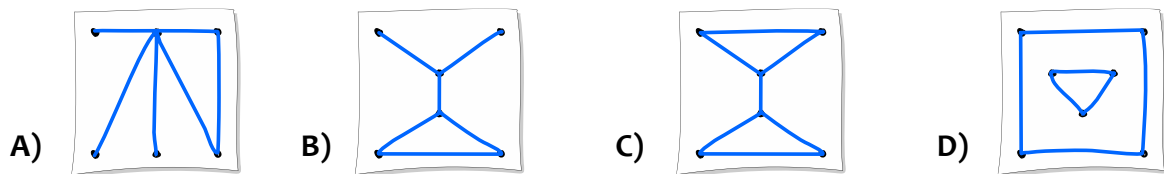
T12. Treasure Island

Pirate Pierre lives on Island 1, as shown on the map. He has been given a secret code: B-A-C-A-A-B. This code tells him which bridges to cross to get to a hidden treasure.

B-A-C-A-A-B

Sometimes, the code has a letter for a bridge that is not directly reachable from the island Pierre will be on. In this case, he must ignore that letter and move to the next letter in the code.

For example, if the code was A-B-A, Pierre would cross Bridge A, from Island 1 to Island 2. Then he would stay on Island 2 because there is no Bridge B. Finally, he would go back to Island 1, taking Bridge A again.
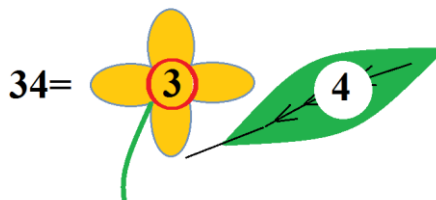
Question / Challenge

The code is B-A-C-A-A-B. On what island is the treasure hidden?

A) 2   B) 3   C) 4   D) 5

T13. Flowers and leaves

Little beaver Mark has written all the numbers from 0 to 9 on flowers and leaves. He wrote each odd number on a flower and each even number on a leaf. Then he uses these pieces of plants to write numbers, as in the next example.
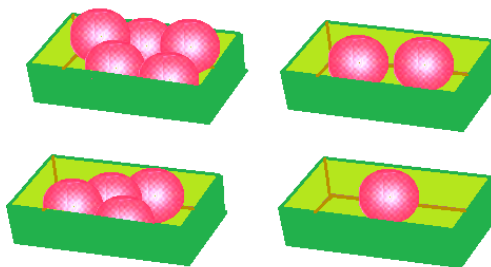
Example

$34=$

Question / Challenge

Which of the following sequence has he used to write the current year 2021?

A) Leaf, flower, flower, leaf   **B)** Flower, flower, flower, leaf
C) Leaf, leaf, leaf, flower   **D)** Leaf, leaf, flower, flower

T14. Balloons

Alex arranged several balloons in four boxes:

Question / Challenge

What is the smallest number of balloons that must be moved so that in each of the four boxes will be the same number of balloons?

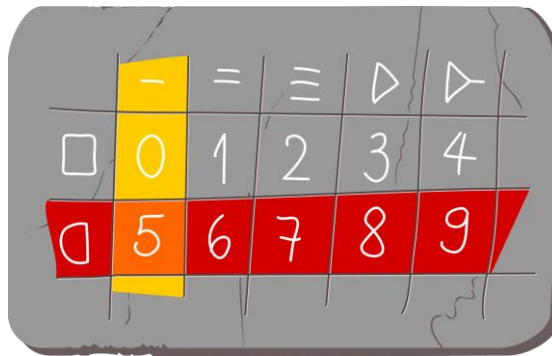**A)** 1   **B)** 2   **C)** 3   **D)** 4

Tasks T15 – T21 carry 5 points each

T15. Secret Digits

Beaver homes are numbered using symbols instead of digits according to the table shown:

For example, the digit 5 is written by locating the digit in the table and then combining its row symbol ⊓ with its column symbol – to create the new symbol ⊓– .
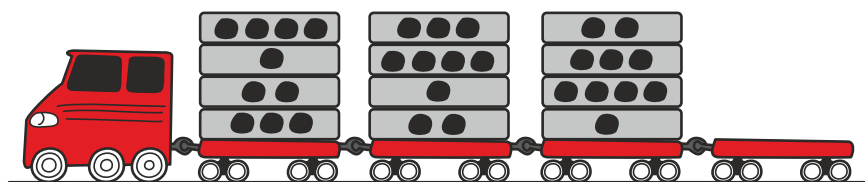

Here is a picture of one beaver's home:

Question / Challenge

What digits are on this beaver's home?
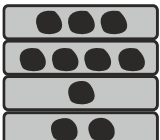
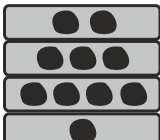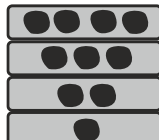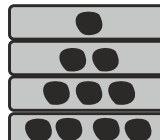**A)** 1795 **B)** 1973 **C)** 2357 **D)** 8450

T16. Dotted blocks

A train that has 4 trailers carries blocks that are labeled by dots.
The first, second, and third trailers are already loaded with blocks. The blocks are arranged according to a certain rule.
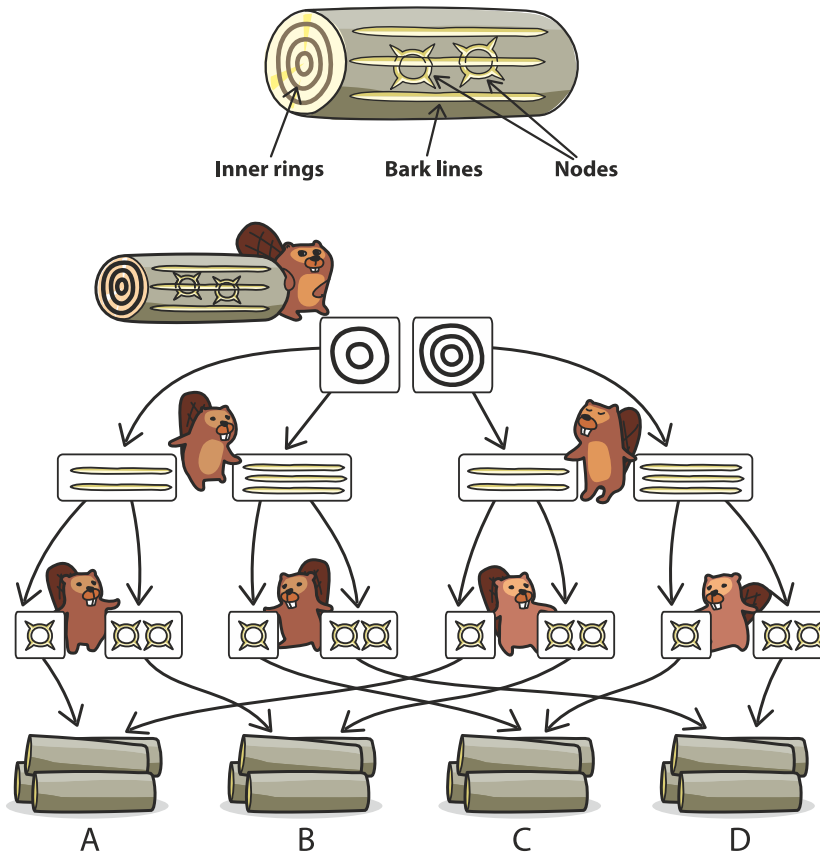

Question / Challenge

What pattern would you expect on the fourth trailer so as to respect the rule?

A) B) C) D)

T17. Log Classifier

In Beaver village there is a log storing facility, which stores logs depending on three properties: number of inner rings, number of bark lines and number of nodes, as in the image below.

Inner rings   Bark lines   Nodes

A   B   C   D

Above you can see how beavers sort logs based on their inner rings, bark lines and nodes, by sending logs between them, starting from the top beaver until the stacks on the bottom.

The log shown above will be placed in stack D. This is because the log has three inner rings (so it goes right from the first beaver), three bark lines (so it goes right from the second beaver) and two nodes (so it goes right from the third beaver).
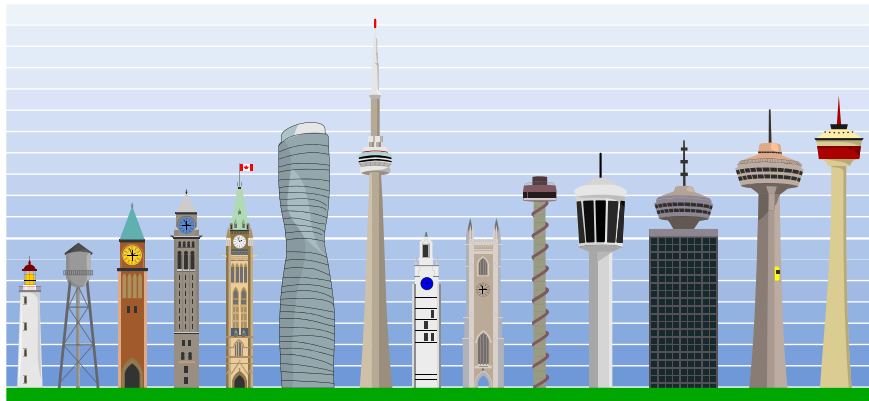
Question / Challenge

On which stack will the log shown below be sent based on its properties?

A) A   **B)** B   **C)** C   **D)** D
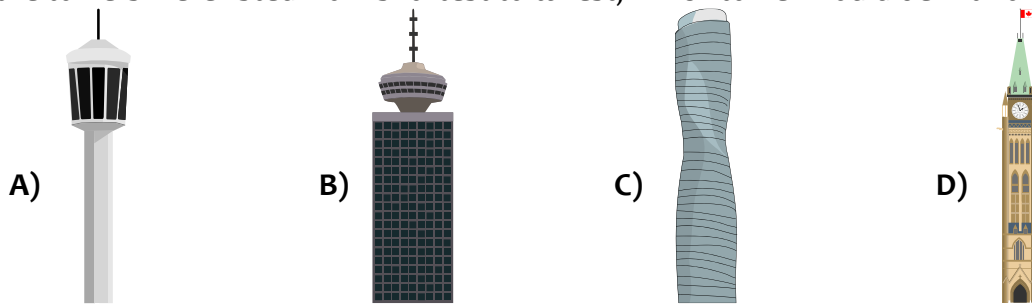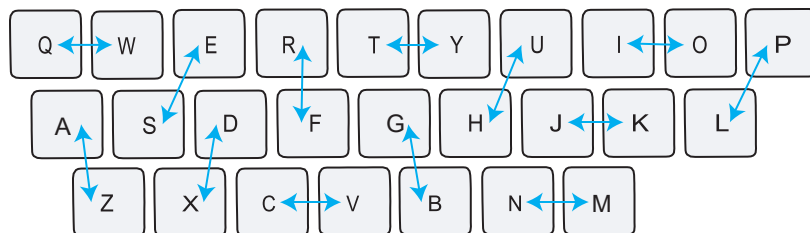
T18. Skyline

A skyline consists of 14 towers as shown.

Question / Challenge

If the towers were listed from shortest to tallest, which tower would be 10th on the list?

A)   **B)**   **C)**   **D)**

T19. Crypto Keys

Jan has a special keyboard for writing secret messages. When a key is pressed, a different letter is displayed on the screen, according to the following keyboard map:

The arrows indicate which letter is displayed when a key is pressed. For example, when Jan presses "S", the letter "E" is displayed on the screen, and when Jan presses "E", it is the letter "S" which is displayed.
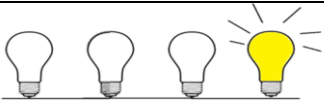
Question / Challenge

Jan's screen displays a secret message with the following letters: "NIFMOMB". What is the original message written by Jan?

A) MOLDING   **B)** MERMAID   **C)** MORNING   **D)** MICROBE

T20. Bulbs

A robot uses 4 bulbs to represent numbers as it follows

Number	Representation
1	
2	
3	
4	

Question / Challenge

Which of the following is a representation of number 6?

A)

B)

C)

D)

T21. Shopping

At the beavers' shop from The Valley the pieces of tree bark are packed in packages of 2, 4 and 8 identical pieces.

Question / Challenge

Mother beaver wants to buy 20 pieces of bark. What is the fewest number of packages that she has to buy in order to get the 20 pieces of bark?

A) 2   B) 3   C) 4   D) 5