PANFOPCWHTTAPA!

(Picking A Name For Our Puzzle Contest Was Harder Than The Actual Puzzles Are)

David Altizio, Priyam Bhushan, Jacob Cohen, Botaku

5th to 10th November 2021

Important Links

Submission Page : https://logicmastersindia.com/live/?contest=M202111P

Discussion Thread : http://logicmastersindia.com/t/?tid=2952

F. A. Q. : http://logicmastersindia.com/t/?tid=2773

Registration, if required : http://logicmastersindia.com/register.asp

Introduction

Hello! We are **David Altizio** (djmathman), **Priyam Bhushan** (punchingcatto), **Jacob Cohen** (Conflux), and **Botaku** (Botaku), four passionate puzzlers from the Cracking the Cryptic discord server.

Logic puzzles have experienced a renaissance during the COVID pandemic as a recreational tool to distract us from the outside world. One of the biggest reasons for the increase in popularity has been the Cracking the Cryptic Youtube channel, which went viral with a few videos on amazing puzzles and has been responsible for the evolution of the Sudoku meta. (One of the authors of this contest, David, specifically credits his interest in logic puzzles to one of these videos.) However, this resurgence has primarily focused on Sudoku puzzles; while a Sudoku grid is a canvas for endless creativity, there are many other genres of puzzles that don't get the spotlight they deserve. Thus, we bring to you PANFOPCWHTTAPA -- a series of contests designed to ease solvers into just a few of the many logic puzzle genres out there.

Our goal is two-fold. First, we aim to introduce solvers to the different types of genres often found in puzzle contests. We carefully chose the puzzle genres to present in this first contest to introduce a wide range of puzzle categories (loops, lines, shading, object placement, and number placement). Second, we hope to allow solvers to become comfortable with the genres at play in a short time window. Thus, each genre has three puzzles associated with it, in (roughly) increasing order of difficulty. Our aim is to construct puzzles that are both engaging and fair to newer solvers.

There are two ways you can solve the puzzles in this contest. One way is to print the puzzles on paper and solve with pencil and paper. However, for those who prefer computer software or don’t have access to a printer, we have an online solving option with **Penpa**! Each puzzle will have links to online versions designed to replicate the paper-solving experience. More details will follow in this IB.

If you have any questions, do not hesitate to contact us through the LMI forums. We hope you enjoy the puzzles we have to offer!

About this Contest

This episode has 15 Puzzles from the following puzzle types:

- 3* Kakuro
- 3* Masyu
- 3* Tapa
- 3* Tents
- 3* Hashi

How to participate?

- Understand the rules of different puzzles that will appear in this contest. This Instruction Booklet has rules for each puzzle.
- Download the password protected Puzzle booklet (will be uploaded before the test starts). The Puzzle booklet contains the actual Puzzles to be solved. It is password protected, so you won't be able to open it.
- Any time on or after 5th November Indian Standard Time (but on or before 10th November), login at the submission page using your LMI user-id and password. Please check the submission page for exact timing.
- Click on "Start". At this time, password for pdf will be shown and timer will start. **The contest duration is 60 minutes.**
- The puzzle booklet can be downloaded, printed and solved on paper. We advise you to have a printer accessible with enough paper, if possible.
- There will not be any interface / applet to solve the puzzles on web browser, but external Penpa links will be provided. The participant is still expected to come back and enter the answer key if solving using the links.
- Outside solving help of any kind is not permitted. This includes but is not limited to: assistance of any kind from any other person; prepared notes, books, calculators, computers, or tools other than items explicitly permitted.
- You are allowed to use writing implements, eraser, blank paper (including commercial graph paper), ruler, scissors, and tape.

If you are participating at LMI for first time, you must check the F.A.Q. at http://logicmastersindia.com/t/?tid=2773.

About answer keys and Submission

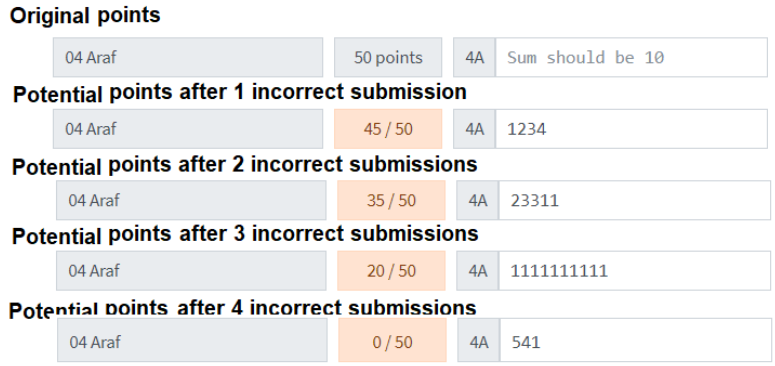
- Each puzzle has some answer keys, as described in the instructions.
- After solving the puzzle, you need to submit the puzzle using the answer keys.
- You may submit the answer keys anytime during the test duration. You may consider submitting a puzzle as soon as you solve it.
- Answer keys are always to be entered from left to right or top to bottom
- Don't enter any separator unless specified in the answer key
- If one row and one column is marked, enter the row first and then the column
- If multiple rows are marked, enter from top to bottom for marked rows
- If multiple columns are marked, enter from left to right for marked columns
- If horizontal and vertical keys are needed, first enter the horizontal and then the vertical
- Uppercase or lower case of answer key does not matter
- Characters other than the ones explicitly expected by the answer key will cause the red highlight to appear around the submission box.

Points Table and Scoring

Points typically indicate difficulty of the Puzzles and time required to solve them. You will get full points if you enter the correct answer key. While the organizers have made best efforts to match them, your personal experience and preference may differ.

Kakuro	4,8,9
Masyu	4,5,8
Tapa	5,6,9
Tents	4,8,10
Hashi	5,6,9

This test uses instant grading where a solver can submit any individual Puzzle and receive confirmation that the solution is correct or not. Each incorrect submission reduces the puzzle's potential score. The first, second, third, and fourth incorrect submissions reduce the potential score to 90%, 70%, 40%, and 0% respectively. A demonstration for this is shown below.



Bonus and Ranking

If you submitted all Puzzles correctly, you can have bonus points. You will earn 1 point per minute saved, computed up to seconds.

Ranking will be based on following rules in order:

1. Most total points
2. Earliest final submission time, up to seconds (ignoring incorrect submissions)

Penpa Usage

This contest will also be solvable on the Penpa-Edit software. Below the rules of each puzzle will be a link to click to solve on the editor. The editor DOES NOT have a solution enabled so it will not check a solution. Participants must submit the answer key codes as they would with paper solving. It is therefore advisable to enter solution codes one at a time.
To practice on the editor, we have given links for solving the example puzzles too.

Credits

- **TostCronch** and **Lavaloid** for test solving the puzzles and providing invaluable feedback.
- History of the various puzzle types adapted from https://en.wikipedia.org/, https://www.gmpuzzles.com/, https://www.janko.at/, https://wpcunofficial.miraheze.org/, http://wiki.logic-masters.de/,
- The original creator **opt-pan** for penpa edit - https://opt-pan.github.io/penpa-edit/
- **Swaroop Guggilam** for his recent efforts in adding features to Penpa-edit - https://swaroopg92.github.io/penpa-edit/

Genre 1: Kakuro

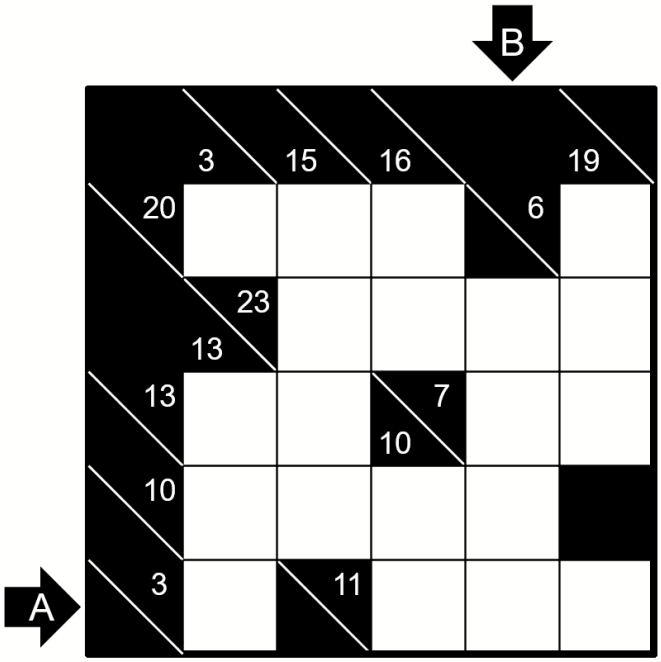
Rules: Enter a digit from 1 to 9 in each white cell.

Clues refer to the sum of the digits in the corresponding row or column, if given.

Digits do not repeat within any set of consecutive white cells.

Penpa solving link for example: https://git.io/JKsNn

Answer Key: Enter the digits in the marked rows/columns in order. Ignore black cells.



Origin of Kakuro: *One of the most popular logic puzzles in the world, Kakuro is an abbreviation of the Japanese phrase Kasan Kurosu (**加算クロス**, meaning addition cross). Often referred to as the mathematical transliteration of the crossword, it was first introduced by Canadian Jacob E. Funk in 1966. Kakuro was first published in Dell Magazines under the name **Cross Sums**, and other names such as **Cross addition** have also been used for it. However, the Japanese name Kakuro has gained wider acceptance since then, and Kakuro remained the most popular logic puzzle in Japanese printed press until 1992 when Sudoku took the top spot.*

Genre 2: Masyu

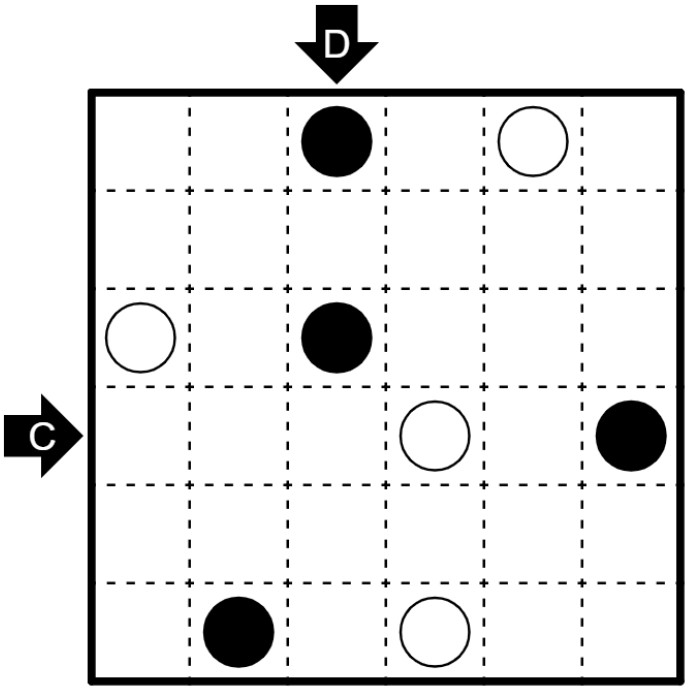
Rules: Draw a single, non-intersecting loop that passes through all circled cells.

The loop must go straight through the cells with white circles, with a turn in at least one of the cells immediately before/after each white circle.

The loop must make a turn in all the black circles, but must go straight in both cells immediately before/after each black circle.

Penpa solving link for example: https://git.io/JiYds

Answer key: For each marked row/column, enter the lengths of loop segments in that direction – from left to right/top to bottom, 0 if there are no segments.



Origin of Masyu: *is a type of logic puzzle designed and published by* ***Nikoli****. The first version of Masyu appeared in* Puzzle Communication Nikoli #84 *under the title of Shinju no Kubikazari (真珠の首飾り, "pearl necklace"), and contained only white circles. Black circles were introduced in in a later issue and the puzzle was renamed Shiroshinju Kuroshinju (白真珠黒真珠, "white pearls and black pearls"). However, a misreading of the kanji for shinju by the president of Nikoli gave it the name Masyu, meaning "****Evil Influence****". Soon the inside joke evolved to replace the lengthy name, and since then Masyu has gained immense popularity as a puzzle that uses no numbers or letters and yet retains depth and aesthetics.*

Genre 3: Tapa

Rules: Shade some empty cells black to create a single connected wall.

Numbers in a cell indicate the length of consecutive shaded blocks in the neighboring cells.

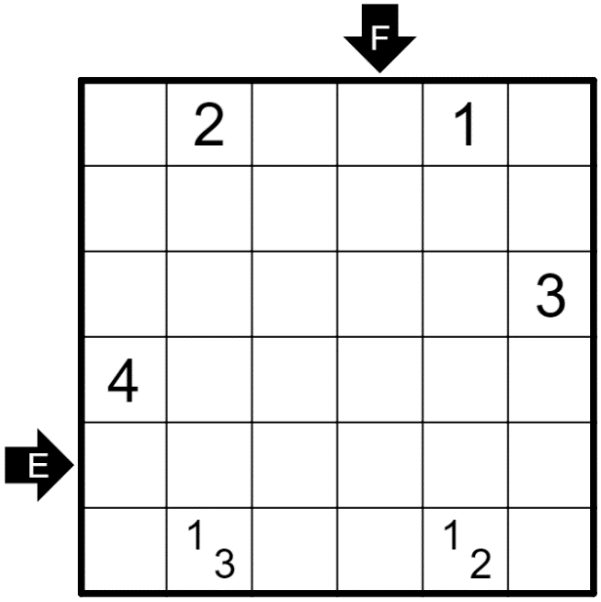
If there is more than one number in a cell, then there must be at least one white (unshaded) cell between the black cell groups.

Cells with numbers cannot be shaded.

Shaded cells cannot form a 2×2 square anywhere in the grid.

Penpa solving link for example: https://git.io/JiYd4

Answer key: For each marked row/column, enter the lengths of separate shaded cell blocks.



Origin of Tapa: *A relatively newer puzzle type, Tapa was created by prolific Turkish puzzle designer* ***Serkan Yürekli*** *in 2007 for the Internet Puzzle Solvers Test (IPST); Tapa was first regularly published by* Akil Oyunlari*. Serkan created Tapa, an acronym of "****T****urkish* ***A****rt* ***Pa****int", as a take on the well-known Japanese grid puzzle O'Ekaki (popularly known as paint by numbers, picross, and nonogram), as he wanted to see if he could design a logic painting puzzle where the numbers are inside the grid.*

Since then, Tapa has received broad recognition as a puzzle with simple rules that can be scaled to different sizes and evolved into a number of variants. Since gaining popularity in 2009 before and during the World Puzzle Championship hosted in Antalya, Turkey, Tapa quickly became mainstream and has since been used in some championships and competitions. One notable example is the ***Tapa Variations Contests****, which have been and will continue to be hosted on LMI.*

Genre 4: Tents

Rules: There are some trees in the grid, and the objective is to pair each tree up with one tent each.

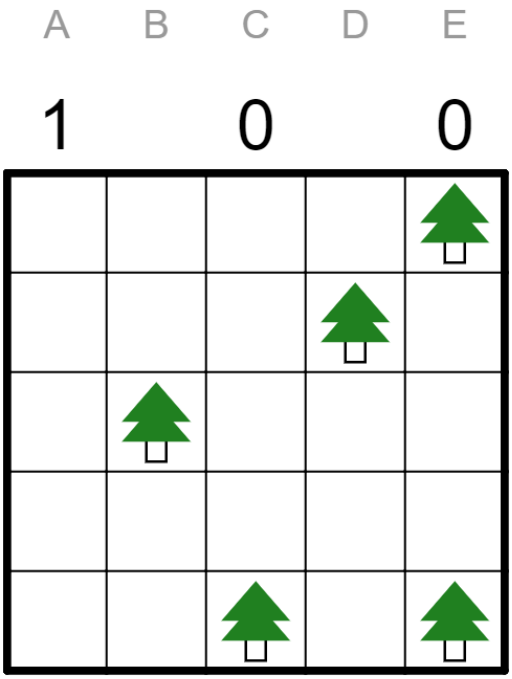
Pair each tree with a tent, adjacent to it horizontally or vertically.

Tents never touch other tents, even diagonally.

The clues outside the grid indicate the number of tents in that row or column.

Penpa solving link for example: https://git.io/Ji3cr

Answer key: The columns will be labelled with alphabet above the puzzle. Enter the column letter for the leftmost tent in each row, from top to bottom. Enter X if there are no tents in a row.



Origin of Tents: *Tents (referred to sometimes as "**Trees and Tents**" or "**Tent Camp**") is an object placement puzzle invented by **Leon Balmaekers** (Netherlands). It was first published in Breinbrekers magazine by Peter Ritmeesterin in 1989. The original title of the puzzle was "Alle Ballen Verzamelen" which translates to "collect all balls.".*

Genre 5: Hashi

Rules: Connect each of the numbered islands in the grid via horizontal and vertical bridges.

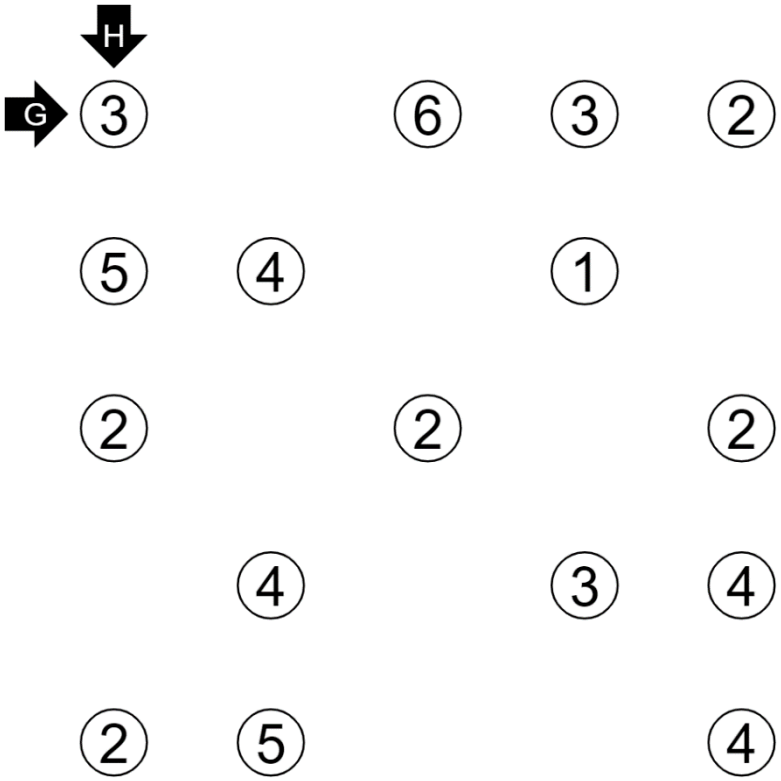
Bridges are not allowed to cross each other.

Each numbered island has that many bridges leading away from it, and at most two bridges are allowed to connect a pair of islands.

There must be a sequence of bridges that links one given island to any other.

Penpa solving link for example: https://git.io/JiYF7

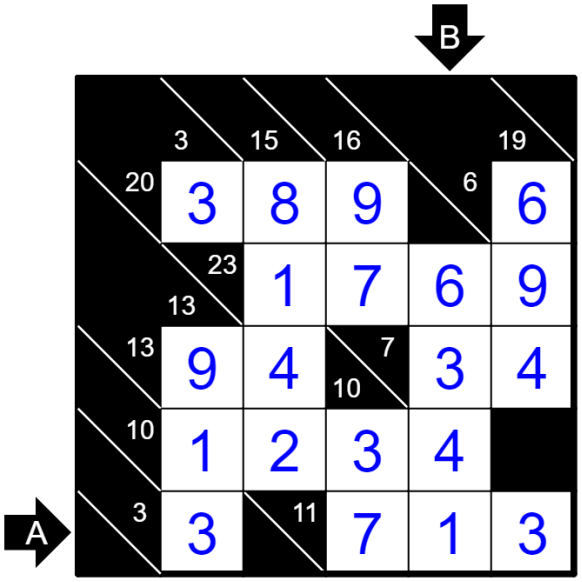
Answer key: Enter contents of the marked row/column, between clues (use 0 for no bridge, 1 for one bridge, and 2 for two bridges).



Origin of Hashi: *Hashi, full name Hashiwokakero (橋をかけろ Hashi o kakero; translating to "build bridges!") is a type of logic puzzle published by Nikoli. It first appeared in* Puzzle Communication Nikoli issue #31 *(September 1990), although an earlier form of the puzzle appeared in issue #28 (December 1989). It is often published in English under the name* ***Bridges****. Interestingly, it has also been published under the name* ***Chopsticks****, based on a mistranslation. (The hashi of the title, 橋, means bridge; hashi written with another character, 箸, means chopsticks.) In France, Denmark, the Netherlands, and Belgium it is published under the name Ai-Ki-Ai.*

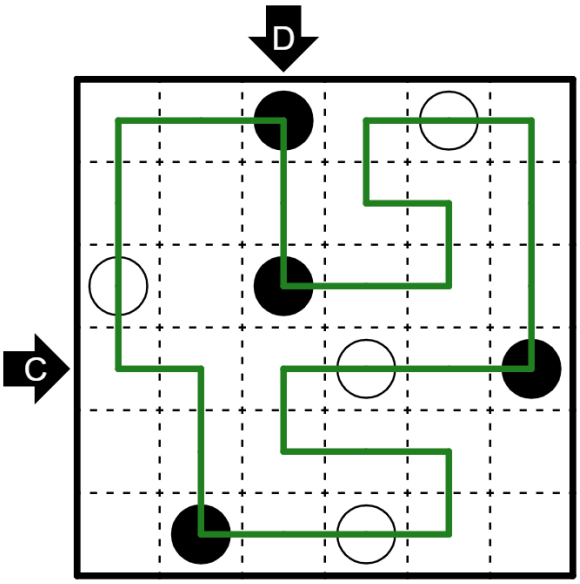
Solutions to the Example Puzzles

1. Kakuro



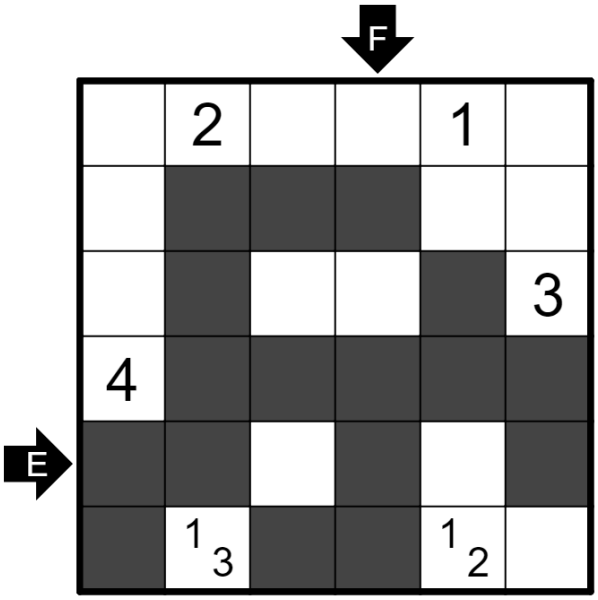
Answer Key:
A: 3713, B: 6341

2. Masyu



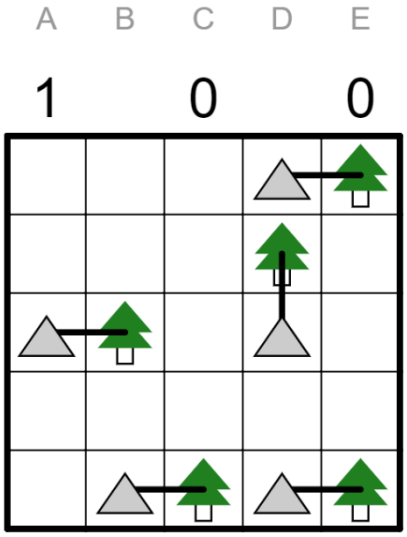
Answer Key:
C: 13, D: 21

3. Tapa



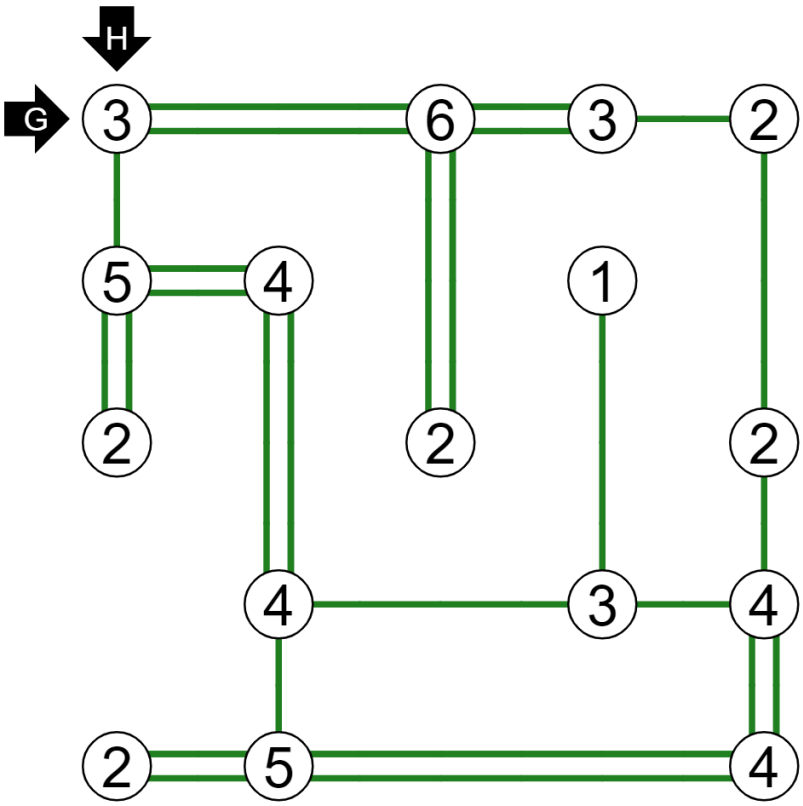
Answer Key:
E: 211, F: 13

4. Tents



Answer Key:
DXAXB

5. Hashi



Answer Key:

G: 221, H: 120