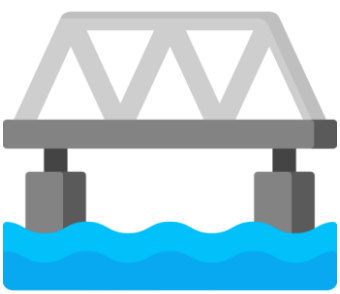
CIVILIZATION
SEASON 2
where everything begins

RULEBOOK



TRUSS

TREKKER

ASCE STUDENT CHAPTER
DHAKA UNIVERSITY OF ENGINEERING & TECHNOLOGY

ORGANIZED BY:
ASCE STUDENT CHAPTER, DUET

IN COLLABORATION WITH:
DEPARTMENT OF CIVIL ENGINEERING, DUET

Get ready to unleash your creativity and engineering prowess at "Truss Trekker" – an exciting truss bridge competition organized by the ASCE Student Chapter, DUET, in collaboration with the Department of Civil Engineering at Dhaka University of Engineering & Technology (DUET), Gazipur. Join us as we pioneer this thrilling event for the 2nd time at DUET, offering students an unparalleled opportunity to showcase their skills and innovative designs. Compete against peers from other universities, challenge yourself, and make your mark in the world of civil engineering. Don't miss out on the chance to be part of history and elevate your engineering journey with "Truss Trekker"!

ELIGIBILITY:

- Only undergraduate students from any university in any discipline can participate in this competition.
- Cross-institutional teams are not allowed.
- Each team will consist of a maximum of 3 members.

MATERIALS:

- Popsicle Sticks (500±50), Hot Glue Sticks, and Glue Gun will be sent to every group on time at their registered addresses.
- Teams must use only the provided materials for constructing the truss models; otherwise, the team will be disqualified.
- A maximum of 250 sticks can be used for making the truss.

JUDGING CRITERIA:

- 70% of the total marks will be determined by the efficiency test.
- 30% of the marks will be evaluated by judges who will also conduct a brief viva regarding the truss and assess the truss's 2D drawing (Side View).

NB. All teams must bring a printed 2D drawing (Side View) of their truss on A4 paper.

RULES AND REGULATIONS FOR THE TRUSS:

- Participants must construct their trusses at their locations. Loading on trusses and their evaluation process will run during the competition.
- Glue is permitted only for joints. Using glue anywhere else will result in disqualification.
- Only hot glue is allowed for binding. If any other adhesive is used, the truss will be disqualified.
- The bridge should not be coated with any other material.
- The width, depth, and length of Popsicle sticks must remain the same as given. Any twisting of the shape of the sticks may result in disqualification.

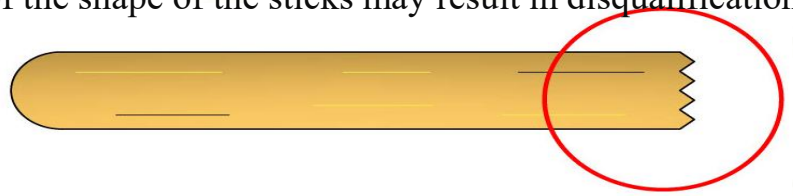


Figure 1: Example of a broken popsicle stick, which will not be allowed

- Any joint exceeding this limit will be considered as overlapping, and the truss will be disqualified.

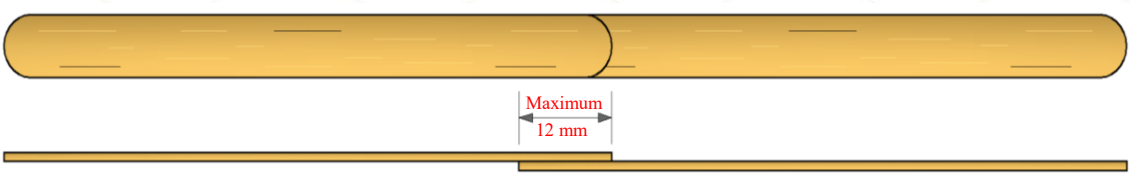


Figure 2: Example of joint length

- Angular (or inclined) Joint length must not be more than 18 mm (as shown in Figure 3).

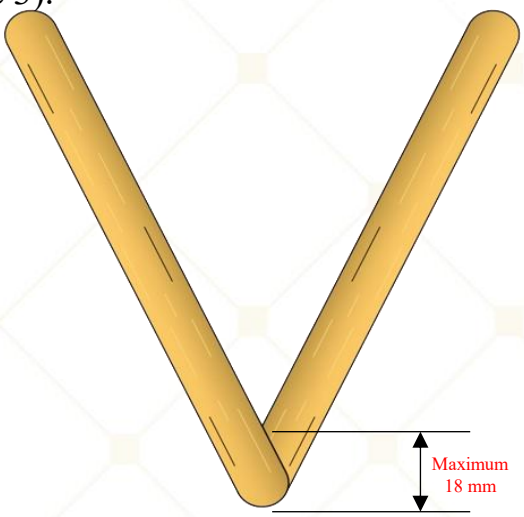


Figure 3: Example of Angular joint

- Overlapping of two sticks is not allowed. Truss models with overlapping members will be disqualified.

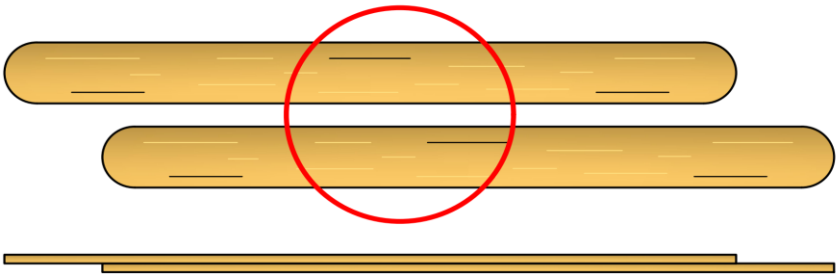


Figure 4: Example of overlapping of sticks which is not allowed

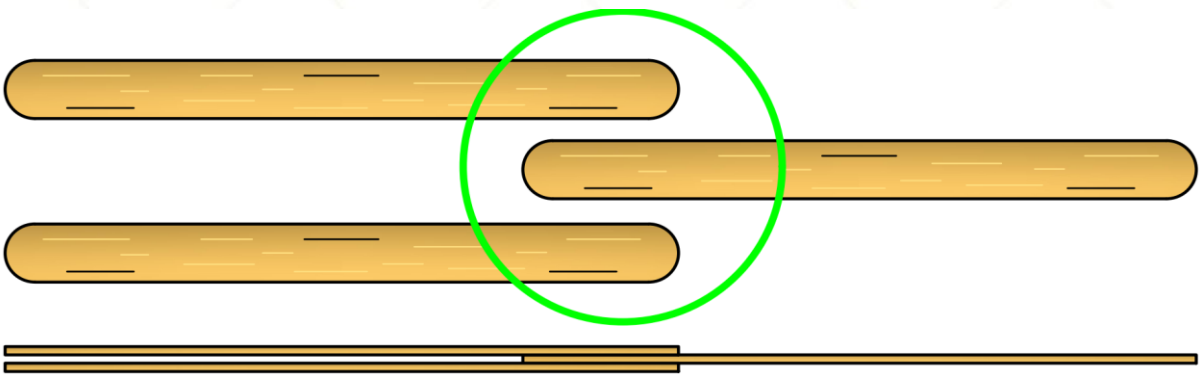


Figure 05: Example of the overlapping joint (double stick) within the limited joint length which is allowed

- The minimum clear span of the truss must be more than 380 mm.

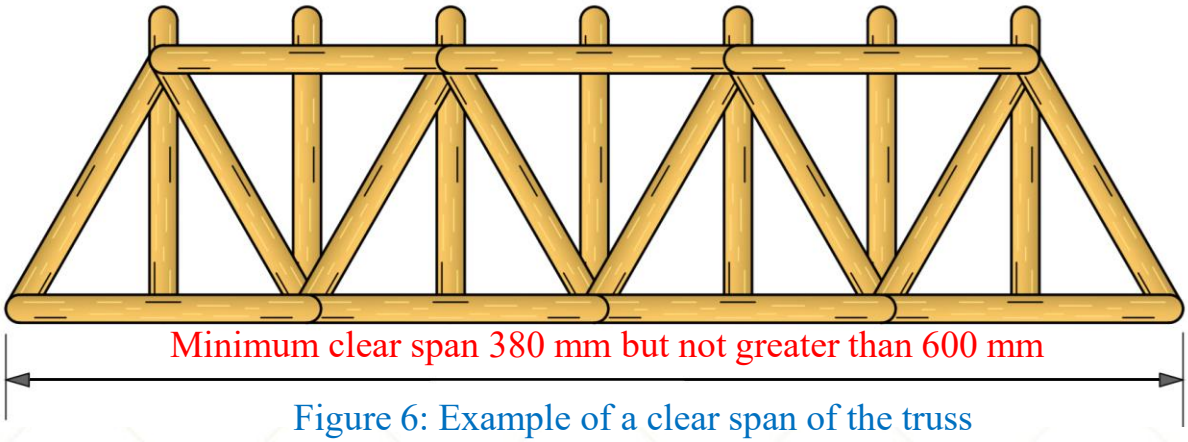


Figure 6: Example of a clear span of the truss

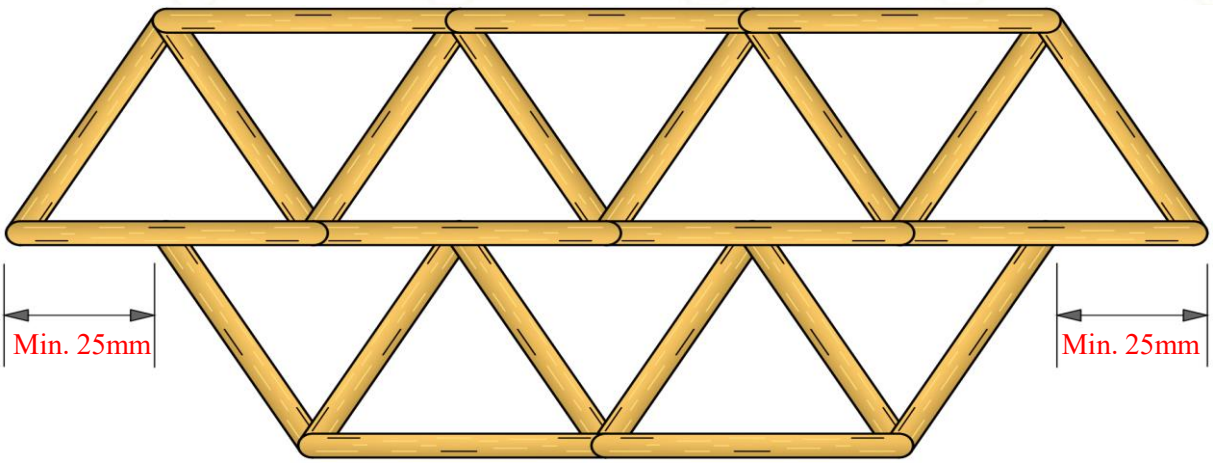


Figure 07: Deck trusses with a minimum clearance of 25 mm from both ends are allowed.

- Diagonal positioning of sticks is allowed, but using glue at the intersection (overlapping) of the diagonal sticks is not allowed.

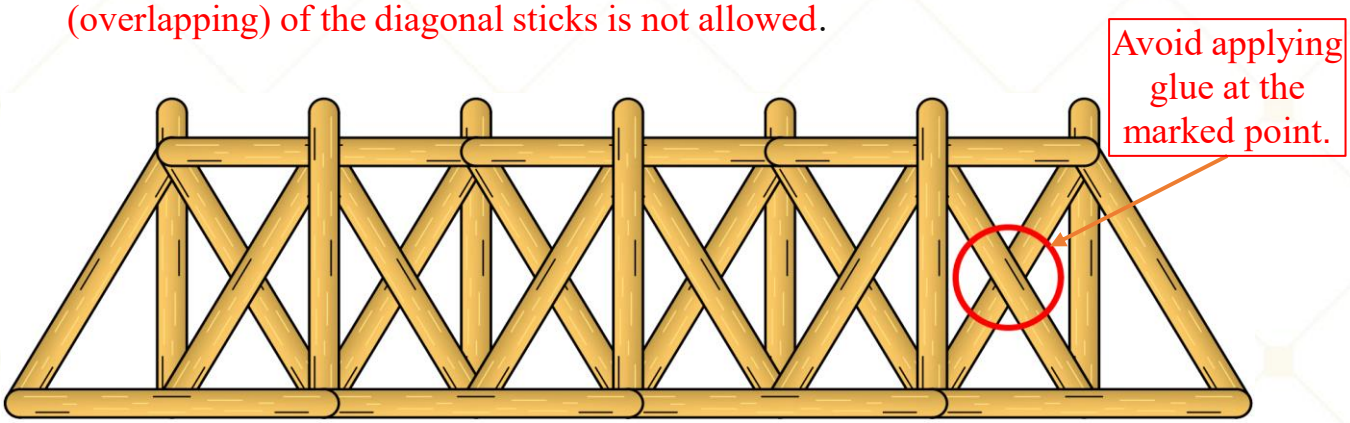


Figure 9: Example of the intersection point of the diagonal sticks where using glue is not allowed

- The truss must have an inner width of at least 80 mm, and the outer width must not exceed the length of one standard Popsicle stick.

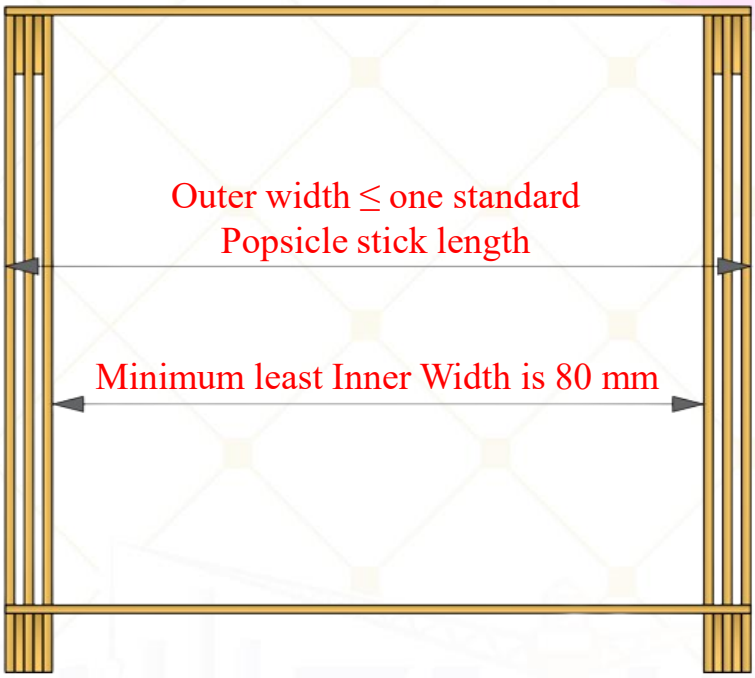


Figure 08

- Only one-layer decks will be considered for load application.

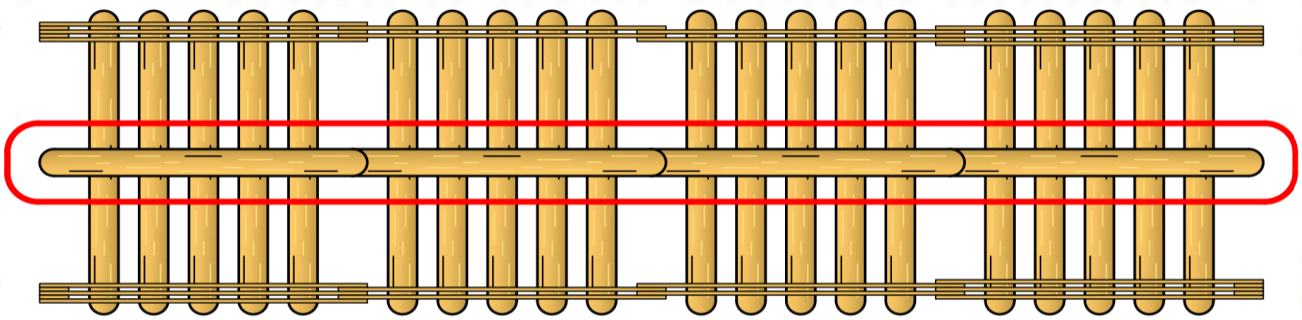


Figure 10: Construction of this type on the deck is not allowed

TESTING:

- The initial measurements will involve determining the truss weight and counting its members.
- Only vertical loads will be applied on the truss.
- If a load causes failure at a specific point, the previous load will be recorded. Deformation of a member will not be considered a failure. Failure of a member will only be acknowledged if it is visibly broken or if there is any sound indicating failure; in such cases, the truss will be considered as failed.
- An initial load of 25 KG will be applied to the truss.
- The following formula will calculate the efficiency of the truss:

  Efficiency = Failure Load (kg) / Self-Weight of Truss (kg)
- If two trusses exhibit equal efficiency, the one with the lowest number of members will be ranked higher.
- The highest efficiency recorded during the competition will score 70 out of 70, and others will be marked relative to it.
- A 260 mm by 50 mm loading plate will be positioned directly on the deck. The loading plate will contain two holes for strings to pass through.
- The center of the plate will be positioned in the middle of the bridge deck.
- The loading plate will be connected to a hook where the loads will be placed.

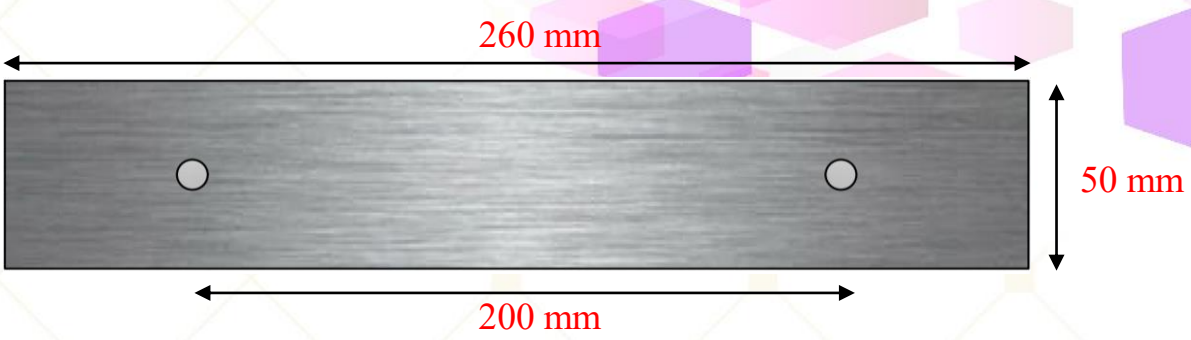


Figure 11: loading plate (260 mm × 50 mm)

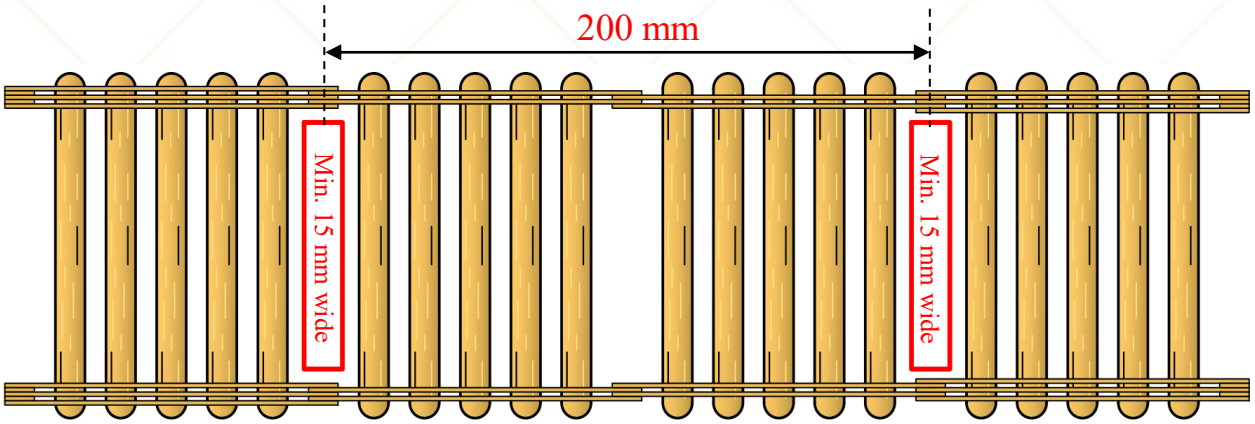


Figure 12: Ensure marked positions on the deck remain clear for testing strings, with a minimum required clearance of 15 mm.

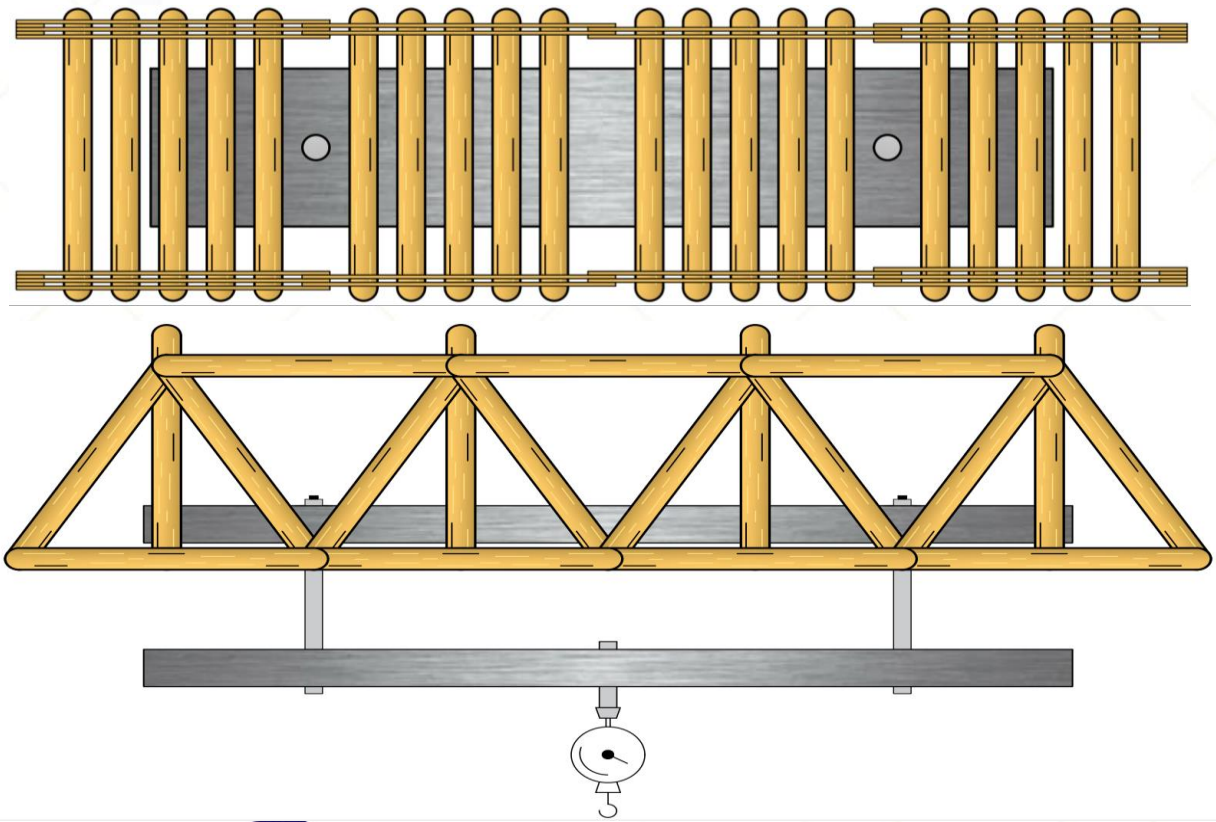


Figure 13: Loading arrangement

DISCLAIMER:

- All teams must follow all the guidelines and rules provided by the Truss Trekker organizers; otherwise, the team will be disqualified.
- The authority has the right to modify the rules if it is necessary.
- Participants must bring their student IDs for the verification process.

PRIZE:

TOTAL PRIZE MONEY
50,000 BDT

WINNER	1ST RUNNER UP	2ND RUNNER UP
24,000 BDT	16,000 BDT	10,000 BTD

- Besides a **Gorgeous Crest** and **Certificate** will be offered to the winners of this "**Truss Trekker**" segment.

Registered Participants Will Receive:

- Event Kit.
- Breakfast And Lunch.
- Certificate Of Participation·
- Transport Facilities (Within Dhaka City On Specific Route)

Registration Deadline:

🔗 **Event Link:** ASCE Student Chapter, DUET

🗓️ **Event Date:** 10 January 2026 (Saturday)

📋 **Event Schedule:** 09:00 AM (Truss Submission) and 10:30 AM (Truss Test)

CONTACT:

For Further Queries

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