Knock-out Tournament bracket manager

GROUP   MEMBER:

Sarong Kimsorng

Heng Sreyka

Sie Rormony

Chhai Rady

Sy Isean

OUR AGENDA

❑ Build a tournament tree from a list of player names.

❑ Record match results with validation and correct propagation.

❑ Answer structure queries(paths, potential meetings)

❑ Print all the bracket clearly after each round

Initialize the team and determine the winner

```cpp
vector<string> teams = {"Team A", "Team B", "Team C", "Team D",
                        "Team E", "Team F", "Team G", "Team H"};//8 teams

BTree tournament;
tournament.buildBra(teams);

// Record results
tournament.recRes(1, "Team A");
tournament.recRes(2, "Team D");
tournament.recRes(3, "Team F");
tournament.recRes(4, "Team H");
tournament.recRes(5, "Team A");
tournament.recRes(6, "Team H");
tournament.recRes(7, "Team H"); // determine the winner
```

```
=== Round 1 ===
Match 1: Team A vs Team B -> Winner: Team A
Match 2: Team C vs Team D -> Winner: Team D
Match 3: Team E vs Team F -> Winner: Team F
Match 4: Team G vs Team H -> Winner: Team H
```

```
=== Round 2 ===
Match 5: Team A vs Team D -> Winner: Team A
Match 6: Team F vs Team H -> Winner: Team H
```

```
=== Round 3 ===
Match 7: Team A vs Team H -> Winner: Team H


Overall Winner: Team H
```
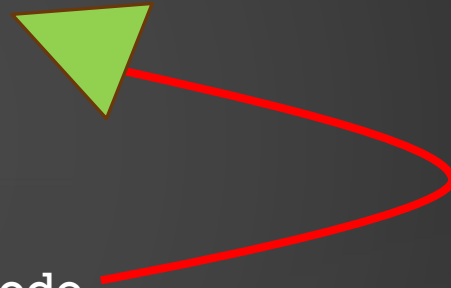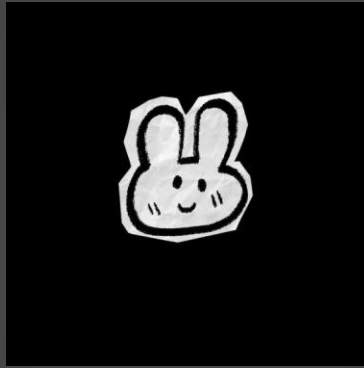
Using the previous winner, we are matching it with the other previous winner.

There are 7 functions:
- findNode()
- findParent()
- proWinner()
- buildBra()
- Bool recRes()`
- printBracketByRound()
- getRoot()

The end!

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