

## A Meet Scorekeeping System

This project is concerned with a computerized scoring system you have volunteered to create for the benefit of a local children's synchronized swimming league. Teams get together for competitions called meets during which the children perform in two types of events: figures and routines. Figure events, which are performed individually, are particular water ballet maneuvers such as swimming on your back with one leg raised straight up. Routines, which are performed by the entire team, are water ballets. Both figures and routines are scored, but your system is concerned only with figures. Children must provide their names, ages, addresses, and team names to register prior to the meet. To simplify scoring, each contestant is assigned a unique number. During a meet, figure events are held simultaneously at several stations that are set up around a swimming pool, usually one at each corner. There are volunteer judges and scorekeepers. Several judges and scorekeepers are assigned to each station during a meet. Over the course of a season each judge and scorekeeper may serve several stations. For scoring uniformity, each figure is held at exactly one station with the same judges. A station may process several figure events in the course of a meet. Contestants are split up into groups, with each group starting at a different station. When a child is finished at one station, he or she proceeds to another station for another event. When everyone has been processed at a station for a given event, the station switches to the next event assigned to it. Each competitor gets one try at each event, called a trial. Just before a trial, the child's number is announced to the child and to the scorekeepers. Each judge indicates a raw score for each observed trial by holding up numbered cards. The scorekeepers enter the scores for each child from each judge into the system and it computes a net score for the trial. The net score is based on discarding the highest and lowest raw scores and the average of the remaining are multiplied by a difficulty factor for the figure. Individual and team prizes are awarded at the conclusion of a meet based on top individual and team scores. There are several age categories, with separate prizes for each category. Individual prizes are based on figures only. Team prizes are based on figures and routines. Your system will be used to store all information needed for scheduling, registration, and scoring.

Prior to a meet, the system will be initialized with the events to be conducted at the meet and the assignment of events to stations. At the meet each child will be registered to compete in a set of events and given a unique number. Judges and scorekeepers will also be registered and assigned to stations. A schedule of events will be assigned to each station. Each child who registered to compete in an event will be assigned to a group which will be scheduled to a station. During a meet, it will compute and record scores and determine winners.

There are consoles at the registration desk, at each race site for entering data. The GUI software is a separate project. Your system communicates with these consoles by sending and receiving messages.