TABLE: game_events

2024 SMT DATA CHALLENGE

VARIABLES	game_str	play_id	at_bat	play_per_game	timestamp	player_position	event_code
OTHER TABLES							
	ball_pos	ball_pos			ball_pos		
	player_pos	player_pos			player_pos	player_pos	
	game_info		game_info	game_info		(game_info)	
DESCRIPTION	Each game string identifies the year and the sequential day within the season. Some games occur on Day ###.5. This identifies the game as the second in a double-header.	A play is defined as a situation where the ball is live. Play ids begin at 1 and are listed consecutively for each game.	An at-bat corresponds to a batter at the plate. They are listed consecutively for each game.	Plays-per-game are comparable to play ids.	Times are shown in milliseconds.	Numbers corresponding to positions are given in the Glossary.	Numbers corresponding to ball events are given in the Glossary.
	Fields are structured as Year_Day_AwayTeam_HomeTeam.	Play ids generally include at least three events: the pitch, what happens to the ball (often a catch of the pitch by the catcher), and the end of the play.	An at-bat includes at least one play id and one play-per-game.	Some plays (e.g. pickoff throws) occur during an at-bat, but are not associated with the at-bat.	Timestamps start at the beginning of each game, with the time of the initial play beginning at t < 60 seconds.	Each player position corresponds to a column given in Game Info, with the column names connected through the Glossary. That information corresponds to player ids at each position.	

TABLE: ball_pos

2024 SMT DATA CHALLENGE

VARIABLES	game_str	play_id	timestamp	ball_position_x	ball_position_y	ball_position_z	
OTHER TABLES	game_events	game_events	game_events				
	player_pos	player_pos	player_pos				
	game_info						
DESCRIPTION	Each game string identifies the year and the sequential day within the season. Some games occur on Day ###.5. This identifies the game as the second in a double-header.	A play is defined as a situation where the ball is live. Play ids begin at 1 and are listed consecutively for each game.	Times are shown in milliseconds.	Dimensions are given in feet.	Dimensions are given in feet.	Dimensions are given in feet.	
	Fields are structured as Year_Day_AwayTeam_HomeTeam.	Play ids generally include at least three events: the pitch, what happens to the ball (often a catch of the pitch by the catcher), and the end of the play.	Timestamps start at the beginning of each game, with the time of the initial play beginning at t < 60 seconds.	x = 0 is defined at the line between home plate and second base, with x > 0 towards first base.	y = 0 is at the back of home plate, with y > 0 towards second base.	z is the height with respect to z=0 in real-world coordinates. z=0 does not necessarily correspond to the ground, which is neither flat nor level.	

TABLE: player_pos

2024 SMT DATA CHALLENGE

VARIABLES	game_str	play_id	timestamp	player_position	field_x	field_y	
OTHER TABLES	game_events	game_events	game_events	game_events			
	ball_pos	ball_pos	ball_pos				
	game_info			(game_info)			
DESCRIPTION	Each game string identifies the year and the sequential day within the season. Some games occur on Day ###.5. This identifies the game as the second in a double-header.	A play is defined as a situation where the ball is live. Play ids begin at 1 and are listed consecutively for each game.	Times are shown in milliseconds.	Numbers corresponding to positions are given in the Glossary.	Dimensions are given in feet.	Dimensions are given in feet.	
	Fields are structured as Year_Day_AwayTeam_HomeTeam.	Play ids generally include at least three events: the pitch, what happens to the ball (often a catch of the pitch by the catcher), and the end of the play.	Timestamps start at the beginning of each game, with the time of the initial play beginning at $t < 60$ seconds.	Each player position corresponds to a column given in Game Info, with the column names connected through the Glossary. That information corresponds to player ids at each position.	$x = 0$ is defined at the line between home plate and second base, with $x > 0$ towards first base.	$y = 0$ is at the back of home plate, with $y > 0$ towards second base.	

TABLE: game_info (p. 1)

2024 SMT DATA CHALLENGE

VARIABLES	game_str	home_team	away_team	at_bat	play_per_game	inning	top_bottom
OTHER TABLES	game_events			game_events	game_events		
	ball_pos						
	player_pos						
		team_info	team_info				
DESCRIPTION	Each game string identifies the year and the sequential day within the season. Some games occur on Day ###.5. This identifies the game as the second in a double-header.			An at-bat corresponds to a batter at the plate. They are listed consecutively for each game.	Plays-per-game begin at 1 and are listed consecutively for each game.	Innings begin at 1 are correspond to both the home and away team getting up to bat.	The away team bats in the top of the inning. The home team bats in the bottom.
	Fields are structured as Year_Day_AwayTeam_HomeTeam.			An at-bat includes at least one play id and one play-per-game.	Some plays (e.g. pickoff throws) occur during an at-bat, but are not associated with the at-bat.	Typical games have 8.5-9 innings (depending on whether the home team is ahead), though they can go from 5 (shortened due to weather) to >9 (extra innings).	

TABLE: game_info (p. 2)

2024 SMT DATA CHALLENGE

VARIABLES	pitcher	catcher	first_base	second_base	third_base	shortstop	
OTHER TABLES	(game_events)	(game_events)	(game_events)	(game_events)	(game_events)	(game_events)	
	(player_pos)	(player_pos)	(player_pos)	(player_pos)	(player_pos)	(player_pos)	
	team_info	team_info	team_info	team_info	team_info	team_info	
DESCRIPTION	The pitcher corresponds to player_position = 1.	The catcher corresponds to player_position = 2.	The first baseman corresponds to player_position = 3.	The second baseman corresponds to player_position = 4.	The third baseman corresponds to player_position = 5.	The shortstop corresponds to player_position = 6.	
	The number corresponds to a player id given in team info.	The number corresponds to a player id given in team info.	The number corresponds to a player id given in team info.	The number corresponds to a player id given in team info.	The number corresponds to a player id given in team info.	The number corresponds to a player id given in team info.	
	This player is on the home team in the top of inning and the away team in the bottom.	This player is on the home team in the top of inning and the away team in the bottom.	This player is on the home team in the top of inning and the away team in the bottom.	This player is on the home team in the top of inning and the away team in the bottom.	This player is on the home team in the top of inning and the away team in the bottom.	This player is on the home team in the top of inning and the away team in the bottom.	

TABLE: game_info (p. 3)

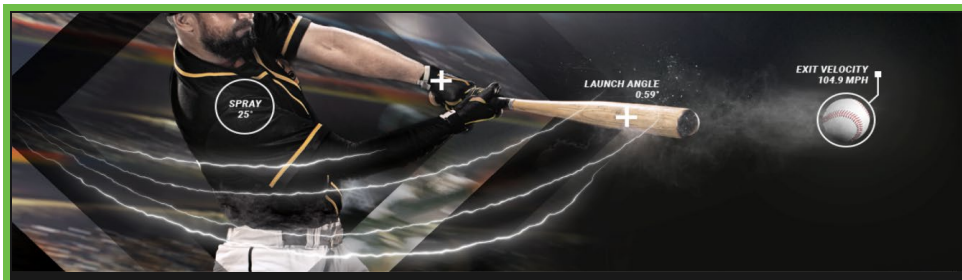
2024 SMT DATA CHALLENGE

VARIABLES	left_field	center_field	right_field	batter	first_baserunner	second_baserunner	third_baserunner
OTHER TABLES	(game_events)	(game_events)	(game_events)	(game_events)	(game_events)	(game_events)	(game_events)
	(player_pos)	(player_pos)	(player_pos)	(player_pos)	(player_pos)	(player_pos)	(player_pos)
	team_info	team_info	team_info	team_info	team_info	team_info	team_info
DESCRIPTION	The left fielder corresponds to player_position = 7.	The centerfielder corresponds to player_position = 8.	The right fielder corresponds to player_position = 9.	The batter corresponds to player_position = 10.	The runner on first base corresponds to player_position = 11.	The runner on second base corresponds to player_position = 12.	The runner on third base corresponds to player_position = 13.
	The number corresponds to a player id given in team info.	The number corresponds to a player id given in team info.	The number corresponds to a player id given in team info.	The number corresponds to a player id given in team info.	The number corresponds to a player id given in team info.	The number corresponds to a player id given in team info.	The number corresponds to a player id given in team info.
	This player is on the home team in the top of inning and the away team in the bottom.	This player is on the home team in the top of inning and the away team in the bottom.	This player is on the home team in the top of inning and the away team in the bottom.	This player is on the away team in the top of inning and the home team in the bottom.	This player is on the away team in the top of inning and the home team in the bottom.	This player is on the away team in the top of inning and the home team in the bottom.	This player is on the away team in the top of inning and the home team in the bottom.
					This field is not necessarily populated for each play per game.	This field is not necessarily populated for each play per game.	This field is not necessarily populated for each play per game.

TABLE: team_info

2024 SMT DATA CHALLENGE

VARIABLES	home_team	player_id	team_year	away_team
OTHER TABLES				
	game_info	game_info		game_info
DESCRIPTION	All home teams are part of the same farm system. Team designations correspond to four consecutive minor league levels, with Home1A being the lowest and Home4A being the highest. Home4A - highest Home3A Home2A Home1A - lowest	The player_ids given here are for players within the Home#A farm system, and carry over longitudinally. This means that the same player can appear at more than one farm level and during both seasons. All Home#A player_ids are three-digit numbers. There are 203 unique player_ids across four home teams and two seasons.	The data include games from two consecutive seasons, designated 1883 and 1884. (NOTE: These are *NOT* the actual 1883 and 1884 seasons.) 1883 data cover appproximately half a season, while 1884 data extend over a full one.	Away teams have been anonymized to be series-specific, meaning that each away team/player are uniquely identified for a single 3-4 game series and reanonymized for additional appearances. **Away teams/players CANNOT be treated longitudinally.** Team designations correspond to home farm system levels: Vis4## - highest Vis3## Vis2## Vis1## - lowest where ## = two letters. These letters are merely in consecutive order, such that Vis4AB and Vis3AB, for example, are unrelated.



2024 SMT DATA CHALLENGE

GLOSSARY

VARIABLE	TABLE	CODE	DEFINITION
player_position	game_events player_pos (game_info)	1	pitcher
		2	catcher
		3	first baseman
		4	second baseman
		5	third baseman
		6	shortstop
		7	left field
		8	center field
		9	right field
		10	batter
		11	runner on first base
		12	runner on second base
		13	runner on third base
		255	ball event with no player (e.g., ball bounce)
event_code	game_events	1	pitch
		2	ball acquired
		3	throw (ball-in-play)
		4	ball hit into play
		5	end of play
		6	pickoff throw
		7	ball acquired - unknown field position
		8	throw (ball-in-play) - unknown field position
		9	ball deflection
		10	ball deflection off of wall
		11	home run
		16	ball bounce