

Assignment: P3

Name: Andrew Spencer

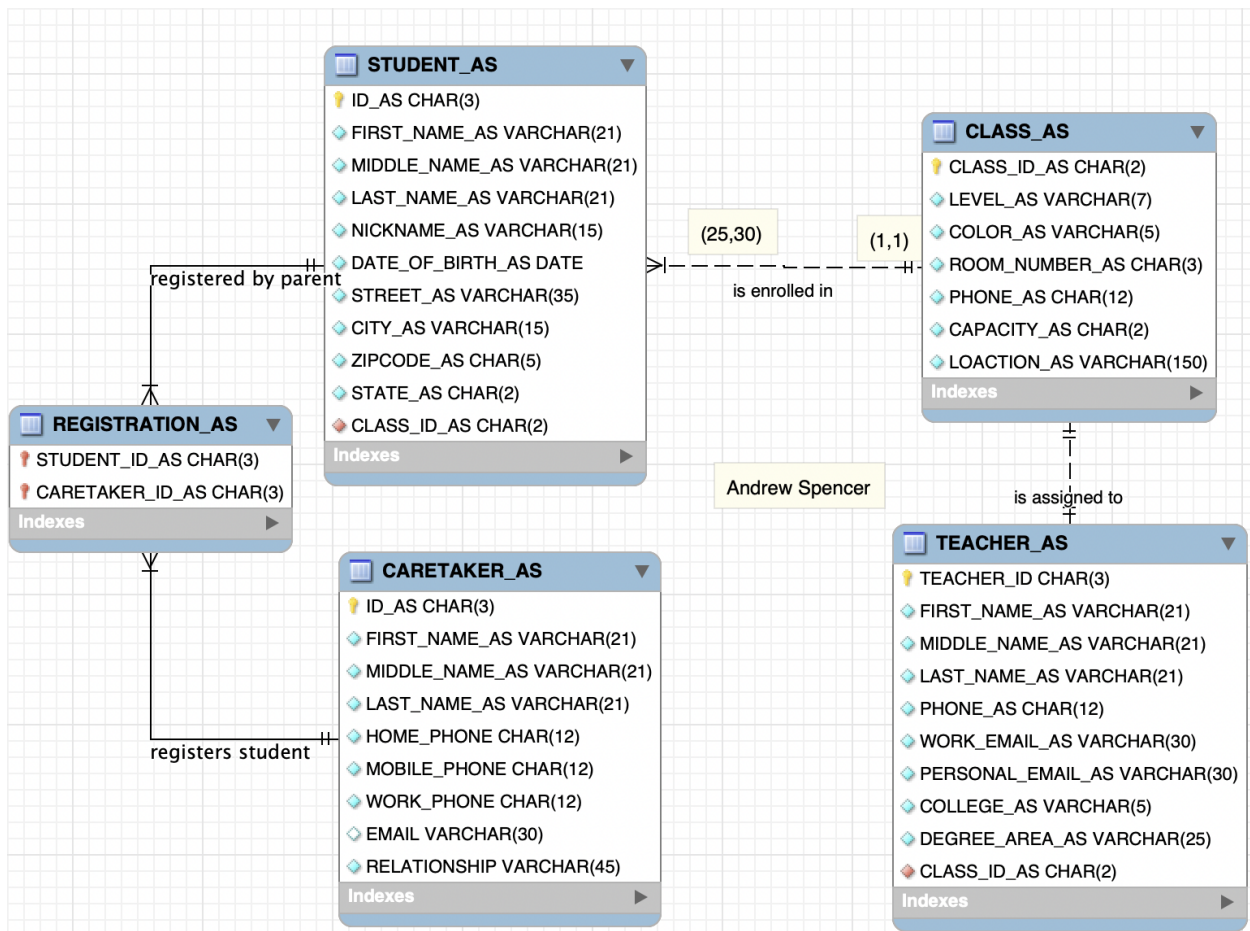
Course and Section: IT 214 Section 005

Happy Learning Kindergarten

This database organizes the information of a private kindergarten. The database contains information about the kindergarten's teachers, students, student caretakers, and classes.



## Task 1 - ERD Model



## Task 2 - Create Database

```

1  -- Task 2: Create Database by Andrew Spencer
2  DROP DATABASE IF EXISTS DAYCARE;
3  CREATE DATABASE DAYCARE;
4  USE DAYCARE;
5  SHOW DATABASES;

```

✓	1	14:56:31	DROP DATABASE IF EXISTS DAYCARE
✓	2	14:56:31	CREATE DATABASE DAYCARE
✓	3	14:56:31	USE DAYCARE
✓	4	14:56:31	SHOW DATABASES

### Task 3 - Create Tables

```
7  -- Task 3: Create Tables by Andrew Spencer
8  • SHOW TABLES;
9
10 • ⊖ CREATE TABLE CLASS(
11     ID CHAR(2) PRIMARY KEY,
12     CLEVEL VARCHAR(7) NOT NULL,
13     COLOR VARCHAR(5) NOT NULL,
14     ROOM_NUMBER CHAR(3) NOT NULL,
15     PHONE CHAR(12) NOT NULL UNIQUE,
16     CAPACITY CHAR(2) NOT NULL,
17     LOCATION VARCHAR(150) NOT NULL UNIQUE
18 );
19
20 • ⊖ CREATE TABLE TEACHER(
21     ID CHAR(2) PRIMARY KEY,
22     FIRST_NAME VARCHAR(21) NOT NULL,
23     MIDDLE_NAME VARCHAR(21),
24     LAST_NAME VARCHAR(21) NOT NULL,
25     PHONE CHAR(12) NOT NULL,
26     WORK_EMAIL VARCHAR(30) NOT NULL,
27     PERSONAL_EMAIL VARCHAR(30) NOT NULL,
28     COLLEGE VARCHAR(5) NOT NULL,
29     DEGREE_AREA VARCHAR(25) NOT NULL,
30     CLASS_ID CHAR(2) NOT NULL,
31     FOREIGN KEY(CLASS_ID) REFERENCES CLASS(ID)
32 );
```

```
34  -- Task 3: Create Tables (Cont.) by Andrew Spencer
35 • ⊖ CREATE TABLE STUDENT(
36     ID CHAR(2) PRIMARY KEY,
37     FIRST_NAME VARCHAR(21) NOT NULL,
38     MIDDLE_NAME VARCHAR(21),
39     LAST_NAME VARCHAR(21) NOT NULL,
40     NICKNAME VARCHAR(15),
41     DATE_OF_BIRTH DATE,
42     STREET VARCHAR(35) NOT NULL,
43     CITY VARCHAR(15) NOT NULL,
44     ZIPCODE CHAR(5) NOT NULL,
45     STATE CHAR(2) NOT NULL,
46     CLASS_ID CHAR(2) NOT NULL,
47     FOREIGN KEY(CLASS_ID) REFERENCES CLASS(ID),
48     CARETAKER_ID CHAR(2)
49 );
50
51 • ⊖ CREATE TABLE CARETAKER(
52     ID CHAR(2) PRIMARY KEY,
53     FIRST_NAME VARCHAR(21) NOT NULL,
54     MIDDLE_NAME VARCHAR(21),
55     LAST_NAME VARCHAR(21) NOT NULL,
56     HOME_PHONE CHAR(12) NOT NULL,
57     MOBILE_PHONE CHAR(12) NOT NULL,
58     WORK_PHONE CHAR(12) NOT NULL,
59     EMAIL VARCHAR(30),
60     RELATIONSHIP VARCHAR(45) NOT NULL,
61     STUDENT_ID CHAR(2)
62 );
```

Execute the selected portion of the script or everything, if there is no selection

✓ 5	14:56:31	SHOW TABLES
✓ 6	14:56:31	CREATE TABLE CLASS( ID CHAR(2) PRIMARY KEY, CLEVEL VARCHAR(7) NOT NU...
✓ 7	14:56:31	CREATE TABLE TEACHER( ID CHAR(2) PRIMARY KEY, FIRST_NAME VARCHAR(21...
✓ 8	14:56:31	CREATE TABLE STUDENT( ID CHAR(2) PRIMARY KEY, FIRST_NAME VARCHAR(21...
✓ 9	14:56:31	CREATE TABLE CARETAKER( ID CHAR(2) PRIMARY KEY, FIRST_NAME VARCHAR...
✓ 10	14:56:31	CREATE TABLE REGISTRATION( CARETAKER_ID CHAR(2)NOT NULL, FOREIGN K...
✓ 11	14:56:31	SHOW TABLES
✓ 12	14:56:31	DESCRIBE CLASS
✓ 13	14:56:31	DESCRIBE TEACHER
✓ 14	14:56:31	DESCRIBE STUDENT
✓ 15	14:56:31	DESCRIBE CARETAKER
✓ 16	14:56:31	DESCRIBE REGISTRATION

```
64  -- Task 3: Create Tables (Cont.) by Andrew Spencer
65 • ⊖ CREATE TABLE REGISTRATION(
66     CARETAKER_ID CHAR(2)NOT NULL,
67     FOREIGN KEY(CARETAKER_ID) REFERENCES CARETAKER(ID),
68     STUDENT_ID CHAR(2) NOT NULL,
69     FOREIGN KEY(STUDENT_ID) REFERENCES STUDENT(ID)
70 );
71
72 • SHOW TABLES;
73 • DESCRIBE CLASS;
74 • DESCRIBE TEACHER;
75 • DESCRIBE STUDENT;
76 • DESCRIBE CARETAKER;
77 • DESCRIBE REGISTRATION;
```

### Task 3 - Create Tables (Cont.)

Field	Type	Null	Key	Default
ID	char(2)	NO	PRI	NULL
CLEVEL	varchar(7)	NO		NULL
COLOR	varchar(5)	NO		NULL
ROOM_NUMBER	char(3)	NO		NULL
PHONE	char(12)	NO	UNI	NULL
CAPACITY	char(2)	NO		NULL
LOCATION	varchar(150)	NO	UNI	NULL

Field	Type	Null	Key	Default
ID	char(2)	NO	PRI	NULL
FIRST_NAME	varchar(21)	NO		NULL
MIDDLE_NAME	varchar(21)	YES		NULL
LAST_NAME	varchar(21)	NO		NULL
PHONE	char(12)	NO		NULL
WORK_EMAIL	varchar(30)	NO		NULL
PERSONAL_EMAIL	varchar(30)	NO		NULL
COLLEGE	varchar(5)	NO		NULL
DEGREE_AREA	varchar(25)	NO		NULL
CLASS_ID	char(2)	NO	MUL	NULL

Field	Type	Null	Key	Default
ID	char(2)	NO	PRI	NULL
FIRST_NAME	varchar(21)	NO		NULL
MIDDLE_NAME	varchar(21)	YES		NULL
LAST_NAME	varchar(21)	NO		NULL
NICKNAME	varchar(15)	YES		NULL
DATE_OF_BIRTH	date	NO		NULL
STREET	varchar(35)	NO		NULL
CITY	varchar(15)	NO		NULL
ZIPCODE	char(5)	NO		NULL
STATE	char(2)	NO		NULL
CLASS_ID	char(2)	NO	MUL	NULL
CARETAKER_ID	char(2)	YES		NULL

Field	Type	Null	Key	Default
ID	char(2)	NO	PRI	NULL
FIRST_NAME	varchar(21)	NO		NULL
MIDDLE_NAME	varchar(21)	YES		NULL
LAST_NAME	varchar(21)	NO		NULL
HOME_PHONE	char(12)	NO		NULL
MOBILE_PHONE	char(12)	NO		NULL
WORK_PHONE	char(12)	NO		NULL
EMAIL	varchar(30)	YES		NULL
RELATIONSHIP	varchar(45)	NO		NULL
STUDENT_ID	char(2)	YES		NULL

Field	Type	Null	Key	Default
CARETAKER_ID	char(2)	NO	MUL	NULL
STUDENT_ID	char(2)	NO	MUL	NULL

## Task 4 - Insert Data

```
79  -- Task 4: Add Data by Andrew Spencer
80  • SELECT * FROM CLASS;
81  • SELECT * FROM TEACHER;
82  • SELECT * FROM STUDENT;
83  • SELECT * FROM CARETAKER;
84  • SELECT * FROM REGISTRATION;
85
86  • INSERT INTO CLASS VALUES
87    ('01', 'Turtles', 'Green', '001', '000-111-0001', '25', 'First left turn down the main hallway.'),
88    ('02', 'Turtles', 'Blue', '002', '000-111-0002', '26', 'First right turn down the main hallway.'),
89    ('03', 'Foxes', 'Green', '003', '000-111-0003', '27', 'Second left turn down the main hallway.'),
90    ('04', 'Foxes', 'Red', '004', '000-111-0004', '28', 'Second right turn down the main hallway.'),
91    ('05', 'Monkeys', 'Red', '005', '000-111-0005', '29', 'Third left turn down the main hallway. ');
92
93  • INSERT INTO TEACHER VALUES
94    ('01', 'Liam', 'NULL', 'Oliver', '111-222-0001', 'JD01@daycare.com', 'jd@gmail.com', 'GMUBS', 'Teaching', '01'),
95    ('02', 'Noah', 'NULL', 'Roberts', '111-222-0002', 'NR02@daycare.com', 'NR@gmail.com', 'GMUMS', 'Teaching', '02'),
96    ('03', 'Emma', 'NULL', 'Charlottes', '111-222-0003', 'EC03@daycare.com', 'EC@gmail.com', 'VCUBS', 'Teaching', '03'),
97    ('04', 'Olivia', 'NULL', 'Williamson', '111-222-0004', 'OW04@daycare.com', 'OW@gmail.com', 'VCUMS', 'Teaching', '04'),
98    ('05', 'Rowan', 'NULL', 'Luca', '111-222-0005', 'RL05@daycare.com', 'RL@gmail.com', 'VTBS', 'Teaching', '05');
99
100 • INSERT INTO STUDENT VALUES
101    ('01', 'Benjamin', NULL, 'Smith', 'Ben', '2020-01-01', '01 First Street', 'Fairfax', '22010', 'VA', '01', NULL),
102    ('02', 'Matthew', NULL, 'Williams', 'Matt', '2020-02-02', '02 Second Street', 'Fairfax', '22010', 'VA', '01', NULL),
103    ('03', 'Michael', NULL, 'Brown', 'Mike', '2019-03-03', '03 Third Street', 'Fairfax', '22010', 'VA', '03', NULL),
104    ('04', 'Jeremy', NULL, 'Jones', 'JJ', '2019-04-04', '04 Fourth Street', 'Fairfax', '22010', 'VA', '03', NULL),
105    ('05', 'Andrew', NULL, 'Davis', 'Andy', '2018-02-02', '05 Fifth Street', 'Fairfax', '22010', 'VA', '05', NULL);
106
107 • INSERT INTO CARETAKER VALUES
108    ('01', 'Spencer', NULL, 'Smith', '333-333-0001', '444-444-0001', '555-555-0001', 'ssParent@gmail.com', 'Father', NULL),
109    ('02', 'Will', NULL, 'Williams', '333-333-0002', '444-444-0002', '555-555-0002', 'wwParent@gmail.com', 'Father', NULL),
110    ('03', 'Bob', NULL, 'Brown', '333-333-0003', '444-444-0003', '555-555-0003', 'bbParent@gmail.com', 'Father', NULL),
111    ('04', 'Jamie', NULL, 'Jones', '333-333-0004', '444-444-0004', '555-555-0004', 'jjParent@gmail.com', 'Mother', NULL),
112    ('05', 'Debbie', NULL, 'Davis', '333-333-0005', '444-444-0005', '555-555-0005', 'ddParent@gmail.com', 'Mother', NULL);
113
114  -- Task 4: Add Data (Cont.) by Andrew Spencer
115  • INSERT INTO REGISTRATION VALUES
116    ('01', '01'),
117    ('02', '02'),
118    ('03', '03'),
119    ('04', '04'),
120    ('05', '05');
121
122  • SELECT * FROM CLASS;
123  • SELECT * FROM TEACHER;
124  • SELECT * FROM STUDENT;
125  • SELECT * FROM CARETAKER;
126  • SELECT * FROM REGISTRATION;
```

✓	17	14:56:31	SELECT * FROM CLASS LIMIT 0, 1000
✓	18	14:56:31	SELECT * FROM TEACHER LIMIT 0, 1000
✓	19	14:56:31	SELECT * FROM STUDENT LIMIT 0, 1000
✓	20	14:56:31	SELECT * FROM CARETAKER LIMIT 0, 1000
✓	21	14:56:31	SELECT * FROM REGISTRATION LIMIT 0, 1000
✓	22	14:56:31	INSERT INTO CLASS VALUES ('01', 'Turtles', 'Green', '001', '000-111-0001', '25', '...
✓	23	14:56:31	INSERT INTO TEACHER VALUES ('01', 'Liam', 'NULL', 'Oliver', '111-222-0001', 'JD...
✓	24	14:56:31	INSERT INTO STUDENT VALUES ('01', 'Benjamin', NULL, 'Smith', 'Ben', '2020-01-...
✓	25	14:56:31	INSERT INTO CARETAKER VALUES ('01', 'Spencer', NULL, 'Smith', '333-333-000...
✓	26	14:56:31	INSERT INTO REGISTRATION VALUES ('01', '01'), ('02', '02'), ('03', '03'), ('04', '0...
✓	27	14:56:31	SELECT * FROM CLASS LIMIT 0, 1000
✓	28	14:56:31	SELECT * FROM TEACHER LIMIT 0, 1000
✓	29	14:56:31	SELECT * FROM STUDENT LIMIT 0, 1000
✓	30	14:56:31	SELECT * FROM CARETAKER LIMIT 0, 1000
✓	31	14:56:31	SELECT * FROM REGISTRATION LIMIT 0, 1000



## Task 4 - Insert Data (Cont.)

ID	CLEVEL	COLOR	ROOM_NUMBER	PHONE	CAPACITY	LOCATION
01	Turtles	Green	001	000-111-0001	25	First left turn down the main hallway.
02	Turtles	Blue	002	000-111-0002	26	First right turn down the main hallway.
03	Foxes	Green	003	000-111-0003	27	Second left turn down the main hallway.
04	Foxes	Red	004	000-111-0004	28	Second right turn down the main hallway.
05	Monkeys	Red	005	000-111-0005	29	Third left turn down the main hallway.

ID	FIRST_NAME	MIDDLE_NAME	LAST_NAME	PHONE	WORK_EMAIL	PERSONAL_EMAIL	COLLEGE	DEGREE_AREA	CLASS_ID
01	Liam	NULL	Oliver	111-222-0001	JD01@daycare.com	jd@gmail.com	GMUBS	Teaching	01
02	Noah	NULL	Roberts	111-222-0002	NR02@daycare.com	NR@gmail.com	GMUMS	Teaching	02
03	Emma	NULL	Charlottes	111-222-0003	EC03@daycare.com	EC@gmail.com	VCUBS	Teaching	03
04	Olivia	NULL	Williamson	111-222-0004	OW04@daycare.com	OW@gmail.com	VCUMS	Teaching	04
05	Rowan	NULL	Luca	111-222-0005	RL05@daycare.com	RL@gmail.com	VTBS	Teaching	05

ID	FIRST_NAME	MIDDLE_NAME	LAST_NAME	NICKNAME	DATE_OF_BIRTH	STREET	CITY	ZIPCODE	STATE	CLASS_ID	CARETAKER_ID
01	Benjamin	NULL	Smith	Ben	2020-01-01	01 First Street	Fairfax	22010	VA	01	NULL
02	Matthew	NULL	Williams	Matt	2020-02-02	02 Second Street	Fairfax	22010	VA	01	NULL
03	Michael	NULL	Brown	Mike	2019-03-03	03 Third Street	Fairfax	22010	VA	03	NULL
04	Jeremy	NULL	Jones	JJ	2019-04-04	04 Fourth Street	Fairfax	22010	VA	03	NULL
05	Andrew	NULL	Davis	Andy	2018-02-02	05 Fifth Street	Fairfax	22010	VA	05	NULL

ID	FIRST_NAME	MIDDLE_NAME	LAST_NAME	HOME_PHONE	MOBILE_PHONE	WORK_PHONE	EMAIL	RELATIONSHIP	STUDENT_ID
01	Spencer	NULL	Smith	333-333-0001	444-444-0001	555-555-0001	ssParent@gmail.com	Father	NULL
02	Will	NULL	Williams	333-333-0002	444-444-0002	555-555-0002	wwParent@gmail.com	Father	NULL
03	Bob	NULL	Brown	333-333-0003	444-444-0003	555-555-0003	bbParent@gmail.com	Father	NULL
04	Jamie	NULL	Jones	333-333-0004	444-444-0004	555-555-0004	jjParent@gmail.com	Mother	NULL
05	Debbie	NULL	Davis	333-333-0005	444-444-0005	555-555-0005	ddParent@gmail.com	Mother	NULL
NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL

CARETAKER_ID	STUDENT_ID
01	01
02	02
03	03
04	04
05	05

## Task 5 - Query Data

```

128  -- Task 5: Query Data by Andrew Spencer
129  • SELECT CONCAT(S.FIRST_NAME, ' ', S.LAST_NAME) AS 'Student', C.CLEVEL AS 'Level', C.COLOR, C.CAPACITY,
130    CONCAT(T.FIRST_NAME, ' ', T.LAST_NAME) AS 'Teacher'
131  ⊖ FROM ((STUDENT AS S
132    { INNER JOIN CLASS AS C ON S.ID = C.ID)
133    { INNER JOIN TEACHER AS T ON C.ID = T.ID)
134    ORDER BY S.LAST_NAME;
135
136  • SELECT C.COLOR AS 'Color', C.CLEVEL AS 'Level',
137    CONCAT(S.FIRST_NAME, ' ', S.LAST_NAME) AS 'Student Name', S.CITY AS 'City'
138  FROM STUDENT AS S INNER JOIN CLASS AS C ON S.ID = C.ID
139  ORDER BY S.LAST_NAME;
140
141  • SELECT CONCAT(P.FIRST_NAME, ' ', P.LAST_NAME) AS 'Parent', P.MOBILE_PHONE AS 'Mobile Phone',
142    CONCAT(S.FIRST_NAME, ' ', S.LAST_NAME) AS 'Student', C.CLEVEL AS 'Level', C.COLOR AS 'Color'
143  ⊖ FROM (((CARETAKER AS P
144    { INNER JOIN REGISTRATION AS R ON P.ID = R.CARETAKER_ID)
145    { INNER JOIN STUDENT AS S ON R.STUDENT_ID = S.ID)
146    { INNER JOIN CLASS AS C ON S.CLASS_ID = C.ID)
147    { INNER JOIN TEACHER AS T ON C.ID = T.CLASS_ID)
148    ORDER BY S.LAST_NAME;
149
150  • SELECT CONCAT(P.FIRST_NAME, ' ', P.LAST_NAME) AS 'Parent', CONCAT(S.FIRST_NAME, ' ', S.LAST_NAME) AS 'Student',
151    CONCAT(T.FIRST_NAME, ' ', T.LAST_NAME) AS 'Teacher'
152  ⊖ FROM (((CARETAKER AS P
153    { INNER JOIN REGISTRATION AS R ON P.ID = R.CARETAKER_ID)
154    { INNER JOIN STUDENT AS S ON R.STUDENT_ID = S.ID)
155    { INNER JOIN CLASS AS C ON S.CLASS_ID = C.ID)
156    { INNER JOIN TEACHER AS T ON C.ID = T.CLASS_ID)
157    ORDER BY P.LAST_NAME;

```

✓ 32	14:56:31	SELECT CONCAT(S.FIRST_NAME, ' ', S.LAST_NAME) AS 'Student', C.CLEVEL AS...
✓ 33	14:56:31	SELECT C.COLOR AS 'Color', C.CLEVEL AS 'Level', CONCAT(S.FIRST_NAME, ' ', S...
✓ 34	14:56:31	SELECT CONCAT(P.FIRST_NAME, ' ', P.LAST_NAME) AS 'Parent', P.MOBILE_PHO...
✓ 35	14:56:31	SELECT CONCAT(P.FIRST_NAME, ' ', P.LAST_NAME) AS 'Parent', CONCAT(S.FIRS...

Student	Level	COLOR	CAPACITY	Teacher
Michael Brown	Foxes	Green	27	Emma Charlottes
Andrew Davis	Monkeys	Red	29	Rowan Luca
Jeremy Jones	Foxes	Red	28	Olivia Williamson
Benjamin Smith	Turtles	Green	25	Liam Oliver
Matthew Williams	Turtles	Blue	26	Noah Roberts

Color	Level	Student Name	City
Green	Foxes	Michael Brown	Fairfax
Red	Monkeys	Andrew Davis	Fairfax
Red	Foxes	Jeremy Jones	Fairfax
Green	Turtles	Benjamin Smith	Fairfax
Blue	Turtles	Matthew Williams	Fairfax

Parent	Mobile Phone	Student	Level	Color
Bob Brown	444-444-0003	Michael Brown	Foxes	Green
Debbie Davis	444-444-0005	Andrew Davis	Monkeys	Red
Jamie Jones	444-444-0004	Jeremy Jones	Foxes	Green
Spencer Smith	444-444-0001	Benjamin Smith	Turtles	Green
Will Williams	444-444-0002	Matthew Williams	Turtles	Green

Parent	Student	Teacher
Bob Brown	Michael Brown	Emma Charlottes
Debbie Davis	Andrew Davis	Rowan Luca
Jamie Jones	Jeremy Jones	Emma Charlottes
Spencer Smith	Benjamin Smith	Liam Oliver
Will Williams	Matthew Williams	Liam Oliver