Quinn Agabob and Jonah Epstein
Project 1

For this project, we sought to try answering seven specific questions by utilizing the *City of Burlington Property Details* database:

1. What is the wealthiest street in Burlington by property value?
2. What is the poorest street in Burlington by property value?
3. What are the oldest streets in Burlington by property age?
4. In which half-century was the most valuable property built?
5. In what decades were the most valuable (at present value) properties built?
6. Properties from which decades have the highest average property values?
7. What buildings have the highest property value for each specific type of building?

1. What is the wealthiest street in Burlington by property value?
This code makes the table streetvalues:

```
CREATE TABLE streetvalues AS
SELECT propertyaddress.st_name, propertyvalue.total_value
FROM propertyaddress
INNER JOIN propertyvalue
ON propertyaddress.prop_id = propertyvalue.prop_id;
```

It has the column property address from st_name and total_value from propertyvalue.

```
SELECT st_name, sum(total_value) as sum_val
FROM streetvalues
GROUP BY st_name
ORDER BY sum_val DESC;
```

After using a simple group by and summing the total values, we get our output:

st_name	sum_val
COLCHESTER AV	503099021
MAIN ST	248063877
NORTH AV	226625989
SOUTH PROSPECT ST	210839595
CHERRY ST	140302000
COLLEGE ST	134845249
PINE ST	121171702
CHURCH ST	110638100
SOUTH UNION ST	89344451
ST PAUL ST	80390315
SPEAR ST	76014300
UNIVERSITY PL	73243700
SOUTH WILLARD ST	70676372
PEARL ST	69271400
AUSTIN DR	62544438
SOUTH WINOOSKI AV	59693660

This output is the first dozen or so from the richest streets determined by the sum of all properties on the street.

2. What is the poorest street in Burlington by property value?

Utilizing the streetvalues table from the past question, I ran a similar query from, before. However, this one is an ascending list instead of descending. This is our output:

STANIFORD FARMS RD	0
NORTH AVENUE EX	95600
AVENUE A	102600
HASWELL	226400
DORSET LN	228300
PROCTOR PL	229000
CEDAR LN	335090
HOLT ST	356800
SUMMER ST	480600
BERRY ST	520800
RUMSEY LN	542300
WOODS ST	573414
SUNSET CT	579500
HASWELL ST	587649
MARGARET ST	616800
JUNIPER TR	667800

3. What are the oldest properties in Burlington by property age?
For this question I created a new table, streetage. It is a join utilizing propertyaddress, property and propertyvalue. It takes year_built from property, st_name from propertyaddress, total value from propertyvalue, and prop_id. It joins all these on prop_id.

```
CREATE TABLE streetage AS
SELECT property.year_built, property.prop_id, propertyaddress.st_name, propertyvalue.total_value
FROM ((property
INNER JOIN propertyaddress
ON property.prop_id = propertyaddress.prop_id)
INNER JOIN propertyvalue
ON property.prop_id = propertyvalue.prop_id);


ALTER TABLE streetage
ADD COLUMN age int;
```

I also added a new column, an int called age, which will represent the age of the property.

```
UPDATE streetage
SET age = 2023 - year_built;
```

Due to some houses having a 0 in year_built, I had to design a where clause to remove them. After that all I needed to do was order the properties.

```
SELECT *
FROM streetage
WHERE NOT age = 2023
ORDER BY age DESC;
```

Here is the output:

year_built	prop_id	st_name	age
1798	9400	KING ST	225
1798	1086	BATTERY ST	225
1800	3053	SOUTH UNION ST	223
1800	7998	PEARL ST	223
1804	2643	MAIN ST	219
1804	481	SOUTH PROSPECT ST	219
1809	3728	SOUTH PROSPECT ST	214
1810	4842	PEARL ST	213
1810	6592	COLCHESTER AV	213
1810	9206	COLCHESTER AV	213
1810	7234	ELMWOOD AV	213
1814	249	PEARL ST	209
1815	285	KING ST	208
1815	3226	PEARL ST	208
1815	10173	MAIN ST	208
1816	7408	PEARL ST	207

4. In which half-century was the most valuable property built?

To answer this question we need to make a new column for half-centuries. After this I will build a series of where clauses to set this column for each half-century.

```
UPDATE streetage
SET span = 0
WHERE year_built >= 2000;
UPDATE streetage
SET span = 1
WHERE year_built BETWEEN 1949 AND 2000;
UPDATE streetage
SET span = 2
WHERE year_built BETWEEN 1899 AND 1950;
UPDATE streetage
SET span = 3
WHERE year_built < 1900;
```

Now I need to group by span, and sum the total values to the output.

```
SELECT span, sum(total_value) as sum_val
FROM streetage
GROUP BY span
ORDER BY sum_val DESC;
```

Output:

span	sum_val
1	2172732001
2	1250904674
3	974808596
0	752656946

The most expensive sum of properties were built in 1950-2000. This makes sense since it is the most current full half-century. The data follows this pattern. The 21st century is the least prosperous, probably due to it not having the same length of time as the other semi centuries did.

5. In what decade were the most valuable (at present value) properties built?

The propertyvalue and propertyaddress tables are joined to the property table, both on prop_id. Propertyaddress is only joined where the building type in property was not "NO BUILDING", meaning the joined table would only contain entries for properties with buildings on them. Year_built is selected from property, st_name and st_num from propertyaddress, and total_value from propertyvalue. In order to have the decade of construction, year_built was selected from propertyaddress, which was then divided by 10, floored to the nearest integer, then multiplied by 10. The entire selected table is ordered by the total property values in descending order, so that the highest value properties will be first.

From the results, we can see that 3 buildings in the top 5 were built in the 2000s, including the most expensive property, while 4 buildings in the top 10 were built in the 1960s.

decade_built	st_num	st_name	total_value
2000	111	COLCHESTER AV	391003000
2000	631	MAIN ST	41263600
1920	0	SOUTH PROSPECT ST	38462800
1960	97	SPEAR ST	33948400
2000	590	MAIN ST	33760500
1960	52	INSTITUTE RD	32427000
1950	250	COLCHESTER AV	31735800
1970	633	MAIN ST	28859900
1960	32	CHERRY ST	28815200
1960	89	BEAUMONT AV	26960800

6. Properties from which decades have the highest average property values?

The propertyvalue table is joined to the property table on prop_id, but only where the building type in property was not "NO BUILDING", meaning the joined table contains entries for properties with buildings on them. Year_built is selected from property, and the same method from query #5 (divide by 10, floor, then multiply by 10) is used to get the decade of construction. Total_value is selected from propertyvalue, then averaged for each decade by group, then rounded to the nearest cent.

The resulting table shows that buildings from the 2000s have the highest average value. The rest of the top 5 are either from slightly later, in the 2010s, or from the first three decades of the 19th century.

decade_built	average_value
2000	1934250.13
1820	1195427.27
1800	992140.00
2010	888959.30
1810	864281.82

7. What building has the highest property value for each type of building?

The propertyvalue and propertyaddress tables were joined to the property table, both on prop_id. Propertyaddress is only joined where the building type in property was not "NO BUILDING", meaning the

joined table would only contain entries for properties with buildings on them. B_type is selected from property, st_name and st_num from propertyaddress, and the maximum total_value, grouped by b_type, is selected from propertyvalue.

From the resulting table, we can view clearly which address has the greatest value for each type of building.

b_type	st_num	st_name	total_value	b_type	st_num	st_name	total_value
APARTMENTS	365	ST PAUL ST	7830000	COTTAGE	451	APPLETREE P...	809600
APT ELEVATOR	16	CHERRY ST	24820000	COUNTRY CLB	568	SOUTH PROS...	5255500
ARMORIES	225	PENNY LN	2929300	COURTHOUSE	175	MAIN ST	28815200
ASSOC HALL	9	CENTRAL AV	11089000	DAYCARE	1540	NORTH AV	425900
ATHLETIC CLB	62	OAK ST	1708500	DECKER	185	ELMWOOD AV	504400
AUTO GARAGE	15	CONGER AV	164200	DEPT STORE	67	CHERRY ST	11123400
AUTO SALE/SE	26	PEARL ST	2871700	DORM +RESID	275	SOUTH WILLA...	41263600
AUTO SHOWROO	333	SHELBURNE ST	3115700	DOUBLE WIDE	33	AVENUE B	176400
BANKS	1125	NORTH AV	3100000	DUPLEX	47	CENTRAL AV	6157500
BED&BREAKFST	76	MAIN ST	2067800	ELDERLY HOME	272	CHURCH ST	5610700
BUNGELOW	53	WARD ST	1570300	ELEC GENRTR	111	INTERVALE RD	14902723
CAFETERIAS	117	BATTERY ST	923400	ENCL MALL	49	CHURCH ST	20837900
CAPE COD	205	APPLETREE P...	2340600	FAST FOOD	580	MAIN ST	493700
CARWASH-MANU	199	RIVERSIDE AV	464800	FEDERAL	178	SOUTH PROS...	3046500
CHURCH SYNG	390	SOUTH PROS...	6843800	FIRE STATION	132	NORTH AV	1188000
CLTRL EDUCTN	48	UNIVERSITY PL	33760500	FLAT 1ST END	499	SOUTH PROS...	352500
COLLEGE	258	SOUTH WILLA...	28859900	FLAT 1ST INT	37	SOUTH WILLI...	405500
COLONIAL	354	NORTH WINO...	6074200	FLAT CONDO	147	VENUS AV	452800
COMM SHP CTR	555	SHELBURNE ST	14649300	FLAT UP END	193	ST PAUL ST	1092200
CONDO DETACH	36	HIGH GROVE CT	349700	FLAT UP INT	47	SOUTH WILLI...	839500
CONDO OFF EL	84	PINE ST	2470000	FLAT W LOFT	33	NORTH AV	314400
CONDO OFFICE	84	PINE ST	7060000	FLEX BLDG	716	PINE ST	1275500
CONDO RETAIL	131	MAIN ST	1690800	FOUR SQUARE	86	LYMAN AV	534000
CONTEM CONDO	141	CUMBERLAND...	270700	FRAN RETAIL	37	CHURCH ST	3437200
CONTEMPORARY	325	SOUTH COVE RD	2623000	FRATS + SOR	439	COLLEGE ST	1864100
CONV STORE	1563	NORTH AV	725600	FUNERAL HOME	71	SOUTH UNIO...	1294500

ype	st_num	st_name	total_value	b_type	st_num	st_name	total_value	b_type	st_num	st_name	total_value
ICE W/APT	233	PEARL ST	2702000	GAS STAT FUL	1006	NORTH AV	951300	SMALL CONDO	193	ST PAUL ST	188600
STYLE	100	SHELBURNE ST	994400	GAS STAT MIN	328	NORTH AV	614100	SMALL SHOP	51	SEARS LN	300900
ER CONDO	262	ETHAN ALLEN ...	548100	GOVT BLDGS	58	PEARL ST	17966300	SPLTLVL RNCH	159	SHORE RD	935100
K GARG 1S	120	KING ST	384700	HOSPITALS	111	COLCHESTER AV	391003000	SUPERMARKET	82	SOUTH WINO...	4495900
LIONS	0	FLYNN AV	3138200	HOTELS	101	MAIN ST	25933400	TELEPHONE BD	200	CHURCH ST	1227400
THS CONDO	57	CLAIRE POIN...	861000	ICE RINK	1093	NORTH AV	5980400	THEATER STAG	116	UNIVERSITY PL	4284200
GRG MLT	47	SOUTH WINO...	7980000	KIOSK BOOTH	119	CHERRY ST	79300	TOWN HOUSE	30	BLODGETT ST	130700
GRG UND	25	CHERRY ST	524900	LIBRARIES	538	MAIN ST	21614900	TOWNHS CONDO	1044	NORTH AV	453500
SED RANCH	137	BIRCH CT	980500	LT MFG	80	INDUSTRIAL PW	4350300	TOWNHS END	18	RAYMOND PL	1201300
CH	174	TRACY DR	1479800	MBLE H W/LND	3140	NORTH AV	128500	TOWNHS INT	84	BUELL ST	695800
FACILITY	97	SPEAR ST	33948400	MED CLINIC	617	RIVERSIDE AV	5982500	TRIPLEX	465	SHELBURNE ST	706300
+BODY	13	DREW ST	736800	MED DENTAL	239	PEARL ST	526900	TUDOR	62	OVERLAKE PK	1213500
LAND	237	ST PAUL ST	181200	MED OFFICE	247	PEARL ST	38462800	VICTORIAN	204	SOUTH WILLA...	2077300
GARAGEAPT	204	PEARL ST	571200	MINI-WHSE	281	INTERVALE RD	319600	WAREHSE GEN	35	INTERVALE RD	4958700
T BAR	228	NORTH WINO...	3816400	MKTS W GAS	500	RIVERSIDE AV	1512300	WATER TRETMT	234	PENNY LN	5876100
AIL GEN	6	PARK ST	3589400	MOBILE HOME	46	AVENUE B	125400				
. OFF APT	112	CHURCH ST	1063100	MOTELS	109	SHELBURNE ST	689100				
. W APTS	200	NORTH ST	2742400	MOVIE CINEMA	108	SOUTH WINO...	1603400				
. W OFF	111	ST PAUL ST	7754500	MULTI-FAMLY	22	PARK ST	1363500				
IMNG HSE	96	BUELL ST	2229200	MUNIC GARAGE	15	INDUSTRIAL PW	6594800				
/ APT	669	RIVERSIDE AV	4060900	MUSEUMS	820	NORTH AV	11104100				
TBOX	125	KILLARNEY DR	260600	NHBD CTR	1127	NORTH AV	5640400				
OOLS ELEM	1645	NORTH AV	32427000	NURSING HOM	300	PEARL ST	6500000				
/ GARG	40	INTERVALE RD	738400	OFFICE ELVTR	95	ST PAUL ST	22110200				
/ REST	189	BANK ST	1526200	OFFICE GENR	1	NORTH AV	31735800				
AGE TRTMT	3080	NORTH AV	13805200	OFFICE REGNL	128	LAKESIDE AV	18785200				