

מיני פרויקט בסיסי נתונים

קק"ל טיולים ומסלולים

אסתר מלכה נוסבכר 213672132

תפארת זוננברג 212886956



קרן קימת לישראל

K K L - J N F

תוכן עניינים:

שלב א
מבוא- תיאור מילולי
תרשים ERD
תרשים DSD
פירוט על החלטות עיצוב
פקודות ה createTable
טבלאות מלאות בנתונים
הגדרות Data Generator
גייבוי

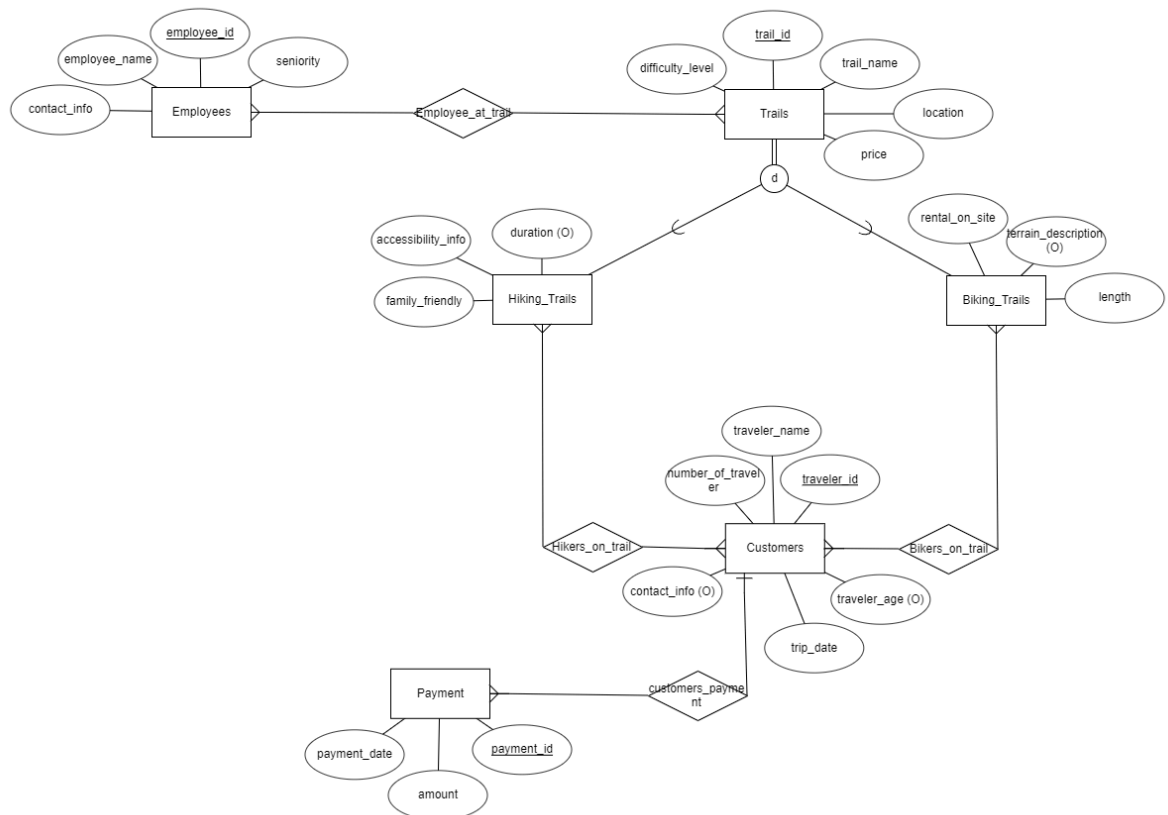
תיאור הצעת הארגון

ארגון קק"ל (קרן קיימת לישראל) מתמקד בפיתוח ושימור מסלולי טיולים ושטחים פתוחים לציבור הרחב. כל אדם יכול לצאת למסלול טיול, ליהנות מהנוף ומהטבע, וללמוד על האזור.

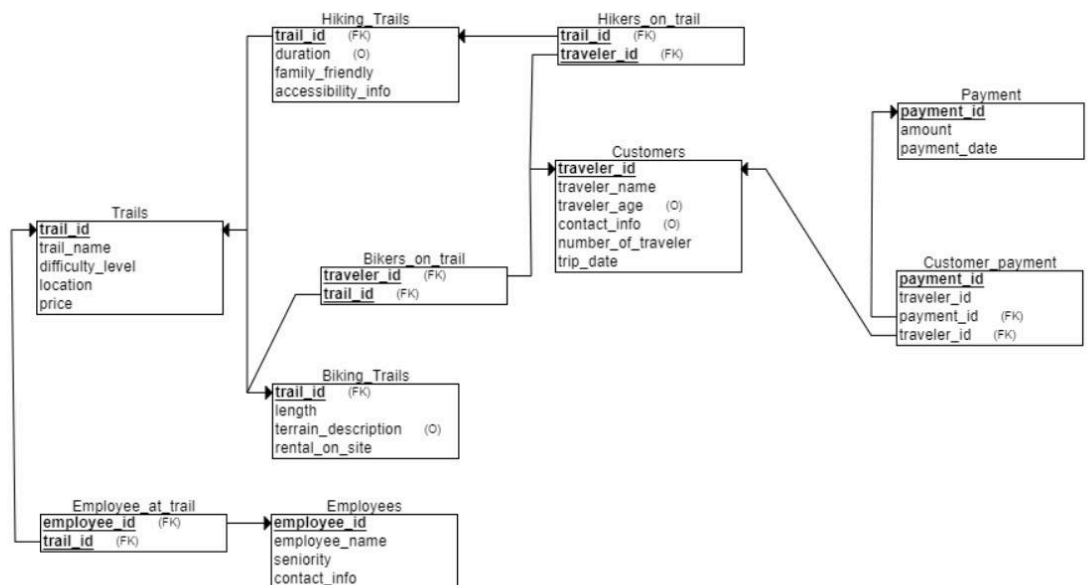
- ניהול מסלולים: המערכת מנהלת מידע על מסלולי טיול שונים כולל פרטים כמו שם, דרגת קושי, מיקום ומחיר. המסלולים מחולקים לשני סוגים עיקריים: מסלולי הליכה ומסלולי רכיבה על אופניים, כאשר כל סוג מכיל פרטים ספציפיים כמו משך המסלול (במסלולי הליכה) או תיאור השטח (במסלולי רכיבה).
- ניהול מטיילים: המערכת שומרת מידע על מטיילים, כולל שם, גיל, פרטי קשר, מספר המטיילים ותאריך הטיול. כמו כן, המערכת מנהלת את הקשר בין מטיילים למסלולים בהם הם טיולים.
- ניהול עובדים: המערכת כוללת מידע על עובדים המוצבים במסלולים שונים, כולל שם, ותק ופרטי קשר.
- ניהול תשלומים: המערכת מנהלת תשלומים של מטיילים עבור הטיולים, כולל סכום התשלום, תאריך התשלום וקישור בין המטייל לתשלום.

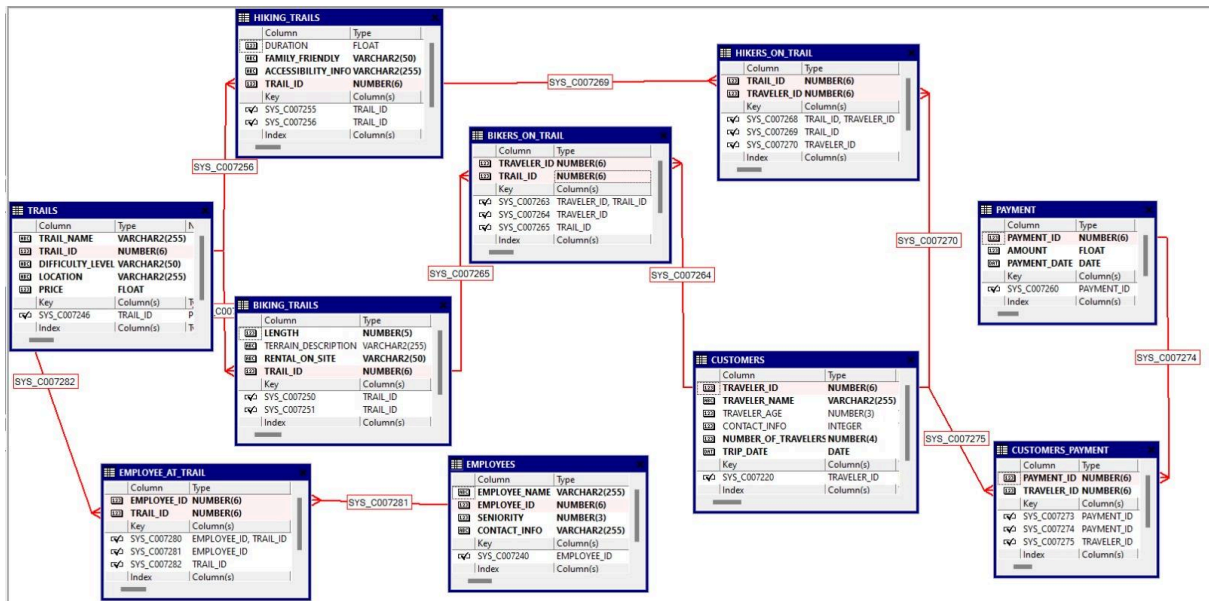
המערכת תוכננה כדי לייעל את ניהול הטיולים והמסלולים, לנהל את פרטי המטיילים והתשלומים בצורה מסודרת ולספק מידע מעודכן ושירות טוב יותר למטיילים.

תרשים ERD:



תרשים DSD:





החלטות עיצוב ונימוקים:

1. בחירת ישויות מרכזיות:

- מסלולים: מייצג את המסלולים השונים שקק"ל מציעה, והם חשובים מאוד לפעילות הארגון ודורשים ניהול מדויק.
- מסלולי הליכה ומסלולי רכיבה: הפיצול מאפשר ניהול משופר של סוגי המסלולים השונים, עם מידע ייחודי (למשל אורך, קשיים למסלולי רכיבה, ונגישות למסלולי הליכה).
- מטיילים: מייצג את המטיילים השונים המשתמשים במסלולים, כדי להתאים שירותים ולעקוב אחרי שימוש במסלולים.
- עובדים: חיוניים לתחזוקת המסלולים לתפעול, וניהול מידע עליהם חשוב.
- תשלומים: תיעוד התשלומים חיוני לניהול כלכלי ולמעקב אחרי השימוש במסלולים.

2. בחירת שדות ומאפיינים:

- מזהים ייחודיים (trail_id, traveler_id, employee_id, payment_id): מבטיחים ייחודיות ומעקב מדויק עבור כל ישות.
- רמת קושי ותיאור השטח (difficulty_level, terrain_description): מסייעים למטיילים לבחור את המסלול המתאים להם בהתאם לרמת הקושי ולתנאי השטח.
- מתאים למשפחות ומידע על נגישות (family_friendly, accessibility_info): מאפשרים למטיילים עם צרכים מיוחדים ולמשפחות לבחור מסלולים המתאימים להם.
- סכום תשלום ותאריך (amount, payment_date): התיעוד מאפשר ניהול כלכלי יעיל ומעקב אחרי העסקאות.

3. יחסים בין הישויות:

- מטיילים במסלול רכיבה והליכה: מייצגים את הקשרים בין המטיילים למסלולים, למעקב אחרי המשתתפים ומניעת כפילויות.
- עובד במסלול: מאפשר שיוך של עובדים לתחזוקת וניהול מסלולים מסוימים, מבטיח ניהול ובקרה יעילים בשטח.

4. ניהול תשלומים:

- התיעוד המפורט של התשלומים, כולל מזהה המטייל והתשלום, מאפשר מעקב אחרי הכנסות הארגון ווידוא תשלומים עבור שימוש במסלולים.

נימוקים:

- דיוק וייחודיות: מזהים ייחודיים לכל ישות ויחס מבטיחים אחסון מדויק וייחודי, מונעים כפילויות ושגיאות.
- גמישות והתאמה: הפיצול של מסלולים לסוגי פעילות מאפשר התאמה משופרת לצרכי המטיילים ומשפר את החיפוש וההתאמה למסל.

פעולות creatTable:

```

CREATE TABLE Employees
(
    employee_name VARCHAR(255) NOT NULL,
    employee_id NUMERIC(6) NOT NULL,
    seniority NUMERIC(3) NOT NULL,
    contact_info VARCHAR(255) NOT NULL,
    PRIMARY KEY (employee_id)
);

CREATE TABLE Trails
(
    trail_name VARCHAR(255) NOT NULL,
    trail_id NUMERIC(6) NOT NULL,
    difficulty_level VARCHAR(50) NOT NULL,
    location VARCHAR(255) NOT NULL,
    price FLOAT NOT NULL,
    PRIMARY KEY (trail_id)
);

CREATE TABLE Biking_Trails
(
    length NUMERIC(5) NOT NULL,
    terrain_description VARCHAR(255),
    rental_on_site VARCHAR(50) NOT NULL,
    trail_id NUMERIC(6) NOT NULL,
    PRIMARY KEY (trail_id),
    FOREIGN KEY (trail_id) REFERENCES Trails(trail_id)
);

CREATE TABLE Hiking_Trails
(
    duration FLOAT,
    family_friendly VARCHAR(50) NOT NULL,
    accessibility_info VARCHAR(255) NOT NULL,
    trail_id NUMERIC(6) NOT NULL,
    PRIMARY KEY (trail_id),
    FOREIGN KEY (trail_id) REFERENCES Trails(trail_id)
);

CREATE TABLE Employee_at_trail
(
    employee_id NUMERIC(6) NOT NULL,
    trail_id NUMERIC(6) NOT NULL,
    PRIMARY KEY (employee_id, trail_id),
    FOREIGN KEY (employee_id) REFERENCES Employees(employee_id),
    FOREIGN KEY (trail_id) REFERENCES Trails(trail_id)
);

CREATE TABLE Customers_payment
(
    payment_id NUMERIC(6) NOT NULL,
    traveler_id NUMERIC(6) NOT NULL,
    PRIMARY KEY (payment_id),
    FOREIGN KEY (payment_id) REFERENCES Payment(payment_id),
    FOREIGN KEY (traveler_id) REFERENCES Customers(traveler_id)
);

```

```
CREATE TABLE Customers
(
    traveler_id NUMERIC(6) NOT NULL,
    traveler_name VARCHAR(255) NOT NULL,
    traveler_age NUMERIC(3),
    contact_info INT,
    number_of_travelers NUMERIC(4) NOT NULL,
    trip_date DATE NOT NULL,
    PRIMARY KEY (traveler_id)
);

CREATE TABLE Bikers_on_trail
(
    traveler_id NUMERIC(6) NOT NULL,
    trail_id NUMERIC(6) NOT NULL,
    PRIMARY KEY (traveler_id, trail_id),
    FOREIGN KEY (traveler_id) REFERENCES Customers(traveler_id),
    FOREIGN KEY (trail_id) REFERENCES Biking_Trails(trail_id)
);

CREATE TABLE Hikers_on_trail
(
    trail_id NUMERIC(6) NOT NULL,
    traveler_id NUMERIC(6) NOT NULL,
    PRIMARY KEY (trail_id, traveler_id),
    FOREIGN KEY (trail_id) REFERENCES Hiking_Trails(trail_id),
    FOREIGN KEY (traveler_id) REFERENCES Customers(traveler_id)
);
```


פעולות Desc:

Connected to Oracle Database 21c Express Edition Release 21.0.0.0.0
 Connected as sys@XE AS SYSDBA

SQL>

SQL> DESC TRAILS;

| Name | Type | Nullable | Default | Comments |
|------|------|----------|---------|----------|
|------|------|----------|---------|----------|

| | | | | |
|------------|---------------|--|--|--|
| TRAIL_NAME | VARCHAR2(255) | | | |
|------------|---------------|--|--|--|

| | | | | |
|----------|-----------|--|--|--|
| TRAIL_ID | NUMBER(6) | | | |
|----------|-----------|--|--|--|

| | | | | |
|------------------|--------------|--|--|--|
| DIFFICULTY_LEVEL | VARCHAR2(50) | | | |
|------------------|--------------|--|--|--|

| | | | | |
|----------|---------------|--|--|--|
| LOCATION | VARCHAR2(255) | | | |
|----------|---------------|--|--|--|

| | | | | |
|-------|-------|--|--|--|
| PRICE | FLOAT | | | |
|-------|-------|--|--|--|

SQL> DESC BIKING_TRAILS;

| Name | Type | Nullable | Default | Comments |
|------|------|----------|---------|----------|
|------|------|----------|---------|----------|

| | | | | |
|--------|-----------|--|--|--|
| LENGTH | NUMBER(5) | | | |
|--------|-----------|--|--|--|

| | | | | |
|---------------------|---------------|---|--|--|
| TERRAIN_DESCRIPTION | VARCHAR2(255) | Y | | |
|---------------------|---------------|---|--|--|

| | | | | |
|----------------|--------------|--|--|--|
| RENTAL_ON_SITE | VARCHAR2(50) | | | |
|----------------|--------------|--|--|--|

| | | | | |
|----------|-----------|--|--|--|
| TRAIL_ID | NUMBER(6) | | | |
|----------|-----------|--|--|--|

SQL> DESC CUSTOMERS;

| Name | Type | Nullable | Default | Comments |
|------|------|----------|---------|----------|
|------|------|----------|---------|----------|

| | | | | |
|-------------|-----------|--|--|--|
| TRAVELER_ID | NUMBER(6) | | | |
|-------------|-----------|--|--|--|

| | | | | |
|---------------|---------------|--|--|--|
| TRAVELER_NAME | VARCHAR2(255) | | | |
|---------------|---------------|--|--|--|

| | | | | |
|--------------|-----------|---|--|--|
| TRAVELER_AGE | NUMBER(3) | Y | | |
|--------------|-----------|---|--|--|

| | | | | |
|--------------|---------|---|--|--|
| CONTACT_INFO | INTEGER | Y | | |
|--------------|---------|---|--|--|

| | | | | |
|---------------------|-----------|--|--|--|
| NUMBER_OF_TRAVELERS | NUMBER(4) | | | |
|---------------------|-----------|--|--|--|

| | | | | |
|-----------|------|--|--|--|
| TRIP_DATE | DATE | | | |
|-----------|------|--|--|--|

SQL> DESC BIKERS_ON_TRAIL;

```

Name          Type          Nullable Default Comments
-----
TRAVELER_ID   NUMBER(6)
TRAIL_ID      NUMBER(6)
SQL> DESC PAYMENT;
Name          Type          Nullable Default Comments
-----
PAYMENT_ID    NUMBER(6)
AMOUNT        FLOAT
PAYMENT_DATE  DATE
SQL> DESC CUSTOMERS_PAYMENT;
Name          Type          Nullable Default Comments
-----
PAYMENT_ID    NUMBER(6)
TRAVELER_ID   NUMBER(6)
SQL> DESC EMPLOYEES;
Name          Type          Nullable Default Comments
-----
EMPLOYEE_NAME VARCHAR2(255)
EMPLOYEE_ID   NUMBER(6)
SENIORITY     NUMBER(3)
CONTACT_INFO  VARCHAR2(255)
SQL> DESC EMPLOYEE_AT_TRAIL;
Name          Type          Nullable Default Comments
-----
EMPLOYEE_ID   NUMBER(6)
TRAIL_ID      NUMBER(6)
SQL> DESC HIKING_TRAILS;
Name          Type          Nullable Default Comments
-----
DURATION       FLOAT          Y
FAMILY_FRIENDLY VARCHAR2(50)
ACCESSIBILITY_INFO VARCHAR2(255)
TRAIL_ID       NUMBER(6)
SQL> DESC HIKERS_ON_TRAIL;
Name          Type          Nullable Default Comments
-----
TRAIL_ID       NUMBER(6)
TRAVELER_ID    NUMBER(6)

```

מהנתונים בטבלות לאחר הרצת פקודות selectAll

טבלת Employees

| | EMPLOYEE_NAME | EMPLOYEE_ID | SENIORITY | CONTACT_INFO |
|----|--------------------|-------------|-----------|--------------|
| 1 | Faith Ticehurst | 1 | 2 | 695-994-8103 |
| 2 | Eugene Lythgoe | 2 | 45 | 406-809-9168 |
| 3 | Meridel Yackiminie | 3 | 18 | 109-680-4599 |
| 4 | Davin Cusworth | 4 | 44 | 889-138-1922 |
| 5 | Willem Abrahamson | 5 | 31 | 583-787-0290 |
| 6 | Dedie Davydochkin | 6 | 30 | 213-750-8261 |
| 7 | Riccardo Orring | 7 | 1 | 389-194-9923 |
| 8 | Gabbi Cerman | 8 | 24 | 504-130-5202 |
| 9 | Elia Snoxill | 9 | 46 | 721-547-7894 |
| 10 | Matthus Scranny | 10 | 26 | 530-852-1870 |
| 11 | Aylmer Carnalan | 11 | 49 | 846-826-4965 |
| 12 | Kerr Amyes | 12 | 44 | 523-981-6712 |
| 13 | Nananne Tebbet | 13 | 40 | 610-406-1522 |
| 14 | Clevey Tilly | 14 | 19 | 108-754-4451 |
| 15 | Murvyn Prime | 15 | 11 | 851-523-2449 |
| 16 | Ricky Thoresby | 16 | 31 | 711-539-6660 |
| 17 | Siegfried Deetlof | 17 | 25 | 624-765-6731 |
| 18 | Timoteo Gander | 18 | 23 | 325-734-6319 |
| 19 | Channa Melmar | 19 | 33 | 819-626-7442 |
| 20 | Mead Warnes | 20 | 20 | 420-889-0318 |
| 21 | Wilfrid MacAlees | 21 | 7 | 191-700-1432 |
| 22 | Freedman Pavlovsky | 22 | 36 | 846-326-5548 |

13:1 sys@XE AS SYSDBA [2:47:00 PM] 399 rows selected in 0.272 seconds

Trails

| | TRAIL_NAME | TRAIL_ID | DIFFICULTY_LEVEL | LOCATION | PRICE |
|----|--------------------------|----------|------------------|------------------|-------|
| 1 | Mount Meron Trail | 20001 | Easy | Upper Galilee | 25 |
| 2 | Masada Summit Trail | 20002 | Moderate | Dead Sea | 30 |
| 3 | Ein Gedi Nature Reserve | 20003 | Moderate | Dead Sea | 20 |
| 4 | Banias Waterfall Trail | 20004 | Moderate | Golan Heights | 35 |
| 5 | Ramon Crater Rim Trail | 20005 | Difficult | Negev Desert | 50 |
| 6 | Nahal Snir Nature Trail | 20006 | Easy | Upper Galilee | 15 |
| 7 | Wadi Qelt Trail | 20007 | Moderate | Judean Desert | 40 |
| 8 | Ein Avdat Canyon Trail | 20008 | Moderate | Negev Desert | 30 |
| 9 | Mount Tabor Trail | 20009 | Difficult | Lower Galilee | 45 |
| 10 | Mount Arbel Trail | 20010 | Difficult | Lower Galilee | 55 |
| 11 | Tel Dan Nature Reserve | 20011 | Easy | Upper Galilee | 20 |
| 12 | En Gedi Waterfalls Trail | 20012 | Moderate | Dead Sea | 35 |
| 13 | Sataf Nature Trail | 20013 | Easy | Jerusalem Hills | 10 |
| 14 | Yehudiya Forest Nature R | 20014 | Moderate | Golan Heights | 25 |
| 15 | Ein Hod Artists' Trail | 20015 | Easy | Carmel Mountains | 20 |
| 16 | Nahal Kziv Trail | 20016 | Moderate | Upper Galilee | 30 |
| 17 | Mount Carmel Ridge Path | 20017 | Difficult | Carmel Mountains | 60 |
| 18 | Ein Gedi Ein Gedi Oasis | 20018 | Moderate | Dead Sea | 35 |
| 19 | Banias River Trail | 20019 | Easy | Golan Heights | 15 |
| 20 | Har HaAri (Lion Mountai | 20020 | Difficult | Lower Galilee | 50 |
| 21 | Nahal Amud Trail | 20021 | Moderate | Upper Galilee | 40 |
| 22 | Wadi Zin Trail | 20022 | Moderate | Negev Desert | 25 |

1 of 956 sys@XE AS SYSDBA [2:49:28 PM] 956 rows selected in 0.859 seconds

טבלת Hikers_on_taril

| | TRAIL_ID | TRAVELER_ID |
|----|----------|-------------|
| 1 | 20005 | 362489 |
| 2 | 20006 | 347614 |
| 3 | 20007 | 337485 |
| 4 | 20007 | 358368 |
| 5 | 20008 | 382744 |
| 6 | 20010 | 341258 |
| 7 | 20011 | 304909 |
| 8 | 20011 | 343493 |
| 9 | 20012 | 320582 |
| 10 | 20012 | 356309 |
| 11 | 20013 | 304368 |
| 12 | 20013 | 351731 |
| 13 | 20015 | 327072 |
| 14 | 20015 | 371040 |
| 15 | 20015 | 382090 |
| 16 | 20016 | 320716 |
| 17 | 20017 | 336289 |
| 18 | 20020 | 352966 |
| 19 | 20021 | 313501 |
| 20 | 20021 | 317503 |
| 21 | 20021 | 381015 |
| 22 | 20022 | 372179 |

1 of 457 0:01 sys@XE AS SYSDBA [2:54:24 PM] 457 rows selected in 1.149 seconds

טבלת Bikers_on_taril

| | TRAVELER_ID | TRAIL_ID |
|----|-------------|----------|
| 1 | 300840 | 20063 |
| 2 | 301134 | 20337 |
| 3 | 302370 | 20308 |
| 4 | 302463 | 20269 |
| 5 | 302840 | 20004 |
| 6 | 303084 | 20185 |
| 7 | 303108 | 20629 |
| 8 | 304083 | 20020 |
| 9 | 304532 | 20274 |
| 10 | 304628 | 20193 |
| 11 | 305177 | 20111 |
| 12 | 306033 | 20290 |
| 13 | 306247 | 21153 |
| 14 | 307301 | 20274 |
| 15 | 307988 | 20237 |
| 16 | 308099 | 20306 |
| 17 | 308240 | 20021 |
| 18 | 308572 | 20190 |
| 19 | 309051 | 20032 |
| 20 | 309080 | 21076 |
| 21 | 309142 | 20228 |
| 22 | 309318 | 21143 |

1 of 440 0:01 sys@XE AS SYSDBA [2:54:50 PM] 440 rows selected in 1.409 seconds

טבלת Customers

| | TRAVELER_ID | TRAVELER_NAME | TRAVELER_AGE | CONTACT_INFO | NUMBER_OF_TRAVELERS | TRIP_DATE | |
|------|-------------|--------------------|--------------|--------------|---------------------|------------|-----|
| 1059 | 397327 | Josh Travolta | 94 | -4877 | 35 | 10/17/2023 | *** |
| 1285 | 347234 | Jerry Stanton | 4 | -4875 | 59 | 9/10/2022 | *** |
| 5289 | 363846 | Angie Guinness | 74 | -4874 | 58 | 8/12/2020 | *** |
| 4665 | 378571 | Shannon Scaggs | 5 | -4873 | 100 | 1/17/2023 | *** |
| 2134 | 357905 | Hazel Midler | 2 | -4872 | 38 | 9/22/2023 | *** |
| 1473 | 376818 | Lois Nolte | 98 | -4872 | 67 | 2/28/2023 | *** |
| 3904 | 321675 | Loren O'Sullivan | 8 | -4871 | 76 | 6/13/2020 | *** |
| 5794 | 316371 | Jesus Wayans | 60 | -4868 | 6 | 8/15/2021 | *** |
| 2390 | 313465 | Campbell O'Donnell | 25 | -4867 | 54 | 2/8/2020 | *** |
| 6449 | 355082 | Tea Leto | 57 | -4866 | 46 | 5/23/2021 | *** |
| 2524 | 309232 | Bebe Bosco | 93 | -4866 | 84 | 11/16/2021 | *** |
| 740 | 398830 | Ivan Vaughn | 100 | -4864 | 7 | 11/15/2023 | *** |
| 5357 | 333076 | Brent Numan | 15 | -4862 | 21 | 4/1/2020 | *** |
| 1518 | 337140 | Charlize Hobson | 77 | -4861 | 43 | 11/30/2023 | *** |
| 3889 | 398363 | Greg Brown | 49 | -4860 | 86 | 8/6/2022 | *** |
| 6376 | 314137 | Eric Caviezel | 57 | -4858 | 2 | 7/17/2022 | *** |
| 5269 | 394021 | Cole Frampton | 43 | -4858 | 22 | 1/6/2021 | *** |
| 5264 | 300112 | Scott Davidson | 59 | -4858 | 68 | 7/10/2022 | *** |
| 6044 | 301600 | Emily Galecki | 54 | -4856 | 89 | 9/17/2022 | *** |
| 543 | 322515 | Brooke Sartain | 10 | -4855 | 11 | 5/5/2020 | *** |
| 9 | 391175 | Delbert Belles | 66 | -4854 | 20 | 7/12/2023 | *** |
| 4072 | 343515 | Rickie Ryder | 28 | -4853 | 42 | 8/19/2020 | *** |

00 & 3603 of 6467 0:06 sys@XE AS SYSDBA traveler_age, number(3), optional

טבלת Payment

| | PAYMENT_ID | AMOUNT | PAYMENT_DATE | |
|----|------------|--------|--------------|-----|
| 1 | 567962 | 2 | 8/26/2020 | *** |
| 2 | 572495 | 3 | 12/21/2021 | *** |
| 3 | 507570 | 2 | 12/24/2022 | *** |
| 4 | 518548 | 4 | 5/4/2023 | *** |
| 5 | 554578 | 4 | 10/7/2023 | *** |
| 6 | 567886 | 4 | 12/3/2023 | *** |
| 7 | 554641 | 4 | 2/10/2023 | *** |
| 8 | 558268 | 2 | 2/9/2024 | *** |
| 9 | 543001 | 5 | 12/14/2022 | *** |
| 10 | 576551 | 2 | 1/5/2020 | *** |
| 11 | 598201 | 2 | 4/21/2021 | *** |
| 12 | 525490 | 3 | 11/13/2022 | *** |
| 13 | 510939 | 4 | 12/5/2023 | *** |
| 14 | 550008 | 2 | 10/12/2022 | *** |
| 15 | 584875 | 4 | 5/19/2022 | *** |
| 16 | 561573 | 2 | 1/22/2020 | *** |
| 17 | 586286 | 4 | 2/4/2020 | *** |
| 18 | 511517 | 3 | 6/7/2022 | *** |
| 19 | 585361 | 1 | 4/18/2022 | *** |
| 20 | 599002 | 2 | 4/20/2024 | *** |
| 21 | 589834 | 3 | 7/30/2022 | *** |
| 22 | 538123 | 1 | 10/9/2022 | *** |

00 & 1 of 6006 0:09 sys@XE AS SYSDBA [2:57:41 PM] 6006 rows selected in 9.769 seconds

טבלת Customer_payment

| | PAYMENT_ID | TRAVELER_ID |
|----|------------|-------------|
| 1 | 554578 | 395846 |
| 2 | 507420 | 315234 |
| 3 | 595977 | 341520 |
| 4 | 599002 | 328007 |
| 5 | 505149 | 352609 |
| 6 | 533678 | 340097 |
| 7 | 593568 | 320113 |
| 8 | 569830 | 350418 |
| 9 | 580286 | 348023 |
| 10 | 550741 | 336751 |
| 11 | 599141 | 307301 |
| 12 | 544150 | 379142 |
| 13 | 591761 | 331611 |
| 14 | 598260 | 307530 |
| 15 | 593984 | 393770 |
| 16 | 511158 | 331597 |
| 17 | 597113 | 352760 |
| 18 | 585051 | 399024 |
| 19 | 550706 | 392136 |
| 20 | 588422 | 362331 |
| 21 | 535493 | 323078 |
| 22 | 576551 | 370072 |

100 & 1 of 544 0:10 sys@XE AS SYSDBA [2:58:01 PM] 544 rows selected in 10.070 seconds

טבלת Hiking_trails

| | DURATION | FAMILY_FRIENDLY | ACCESSIBILITY_INFO | TRAIL_ID |
|----|----------|-----------------|-----------------------------------|----------|
| 1 | 9 | no | *** not wheelchair accessible *** | 20325 |
| 2 | 2 | no | *** wheelchair accessible *** | 20322 |
| 3 | 3 | no | *** wheelchair accessible *** | 20174 |
| 4 | 1 | yes | *** wheelchair accessible *** | 20261 |
| 5 | 5 | yes | *** not wheelchair accessible *** | 20112 |
| 6 | 13 | yes | *** not wheelchair accessible *** | 20262 |
| 7 | 15 | no | *** not wheelchair accessible *** | 20210 |
| 8 | 2 | yes | *** not wheelchair accessible *** | 20205 |
| 9 | 10 | no | *** wheelchair accessible *** | 20608 |
| 10 | 6 | no | *** wheelchair accessible *** | 20122 |
| 11 | 14 | yes | *** not wheelchair accessible *** | 20637 |
| 12 | 12 | yes | *** wheelchair accessible *** | 20632 |
| 13 | 7 | no | *** wheelchair accessible *** | 20329 |
| 14 | 5 | no | *** not wheelchair accessible *** | 20237 |
| 15 | 9 | no | *** wheelchair accessible *** | 20088 |
| 16 | 8 | no | *** wheelchair accessible *** | 20415 |
| 17 | 8 | no | *** not wheelchair accessible *** | 20056 |
| 18 | 1 | no | *** not wheelchair accessible *** | 20079 |
| 19 | 12 | yes | *** wheelchair accessible *** | 20275 |
| 20 | 7 | yes | *** wheelchair accessible *** | 20296 |
| 21 | 9 | yes | *** not wheelchair accessible *** | 20215 |
| 22 | 14 | yes | *** wheelchair accessible *** | 20401 |

100 & 1 of 519 0:10 sys@XE AS SYSDBA [2:58:20 PM] 519 rows selected in 10.416 seconds

טבלת Biking_trails

| | LENGTH | TERRAIN_DESCRIPTION | RENTAL_ON_SITE | TRAIL_ID |
|----|--------|---------------------|----------------|----------|
| 1 | 8 | hilly | no | 20164 |
| 2 | 3 | hilly | no | 20188 |
| 3 | 1 | hilly | no | 20293 |
| 4 | 2 | rocky | yes | 20037 |
| 5 | 7 | smooth | yes | 20143 |
| 6 | 8 | hilly | no | 20336 |
| 7 | 4 | flat | yes | 20217 |
| 8 | 2 | hilly | yes | 20404 |
| 9 | 7 | rocky | no | 20638 |
| 10 | 2 | flat | no | 20280 |
| 11 | 10 | flat | yes | 20607 |
| 12 | 9 | rocky | yes | 20165 |
| 13 | 3 | smooth | no | 20249 |
| 14 | 2 | flat | yes | 20061 |
| 15 | 9 | smooth | no | 20283 |
| 16 | 2 | hilly | yes | 20163 |
| 17 | 3 | rocky | no | 20306 |
| 18 | 4 | flat | yes | 20298 |
| 19 | 10 | hilly | no | 20281 |
| 20 | 6 | smooth | yes | 20058 |
| 21 | 2 | smooth | yes | 20234 |
| 22 | 8 | rocky | yes | 20601 |

1 of 479 0:10 sys@XE AS SYSDBA [2:58:40 PM] 479 rows selected in 10.695 seconds

טבלת Employee_at_trail

| | EMPLOYEE_ID | TRAIL_ID |
|----|-------------|----------|
| 1 | 2 | 20105 |
| 2 | 2 | 20300 |
| 3 | 2 | 20835 |
| 4 | 6 | 20969 |
| 5 | 8 | 20639 |
| 6 | 9 | 20306 |
| 7 | 9 | 21010 |
| 8 | 11 | 20831 |
| 9 | 11 | 21221 |
| 10 | 12 | 20141 |
| 11 | 12 | 20700 |
| 12 | 16 | 20974 |
| 13 | 16 | 21225 |
| 14 | 17 | 20322 |
| 15 | 18 | 20322 |
| 16 | 19 | 20730 |
| 17 | 19 | 20808 |
| 18 | 22 | 21045 |
| 19 | 22 | 21114 |
| 20 | 24 | 20136 |
| 21 | 24 | 20708 |
| 22 | 24 | 21170 |

1 of 400 0:10 sys@XE AS SYSDBA [2:58:59 PM] 400 rows selected in 10.922 seconds

:data generator

| PAYMENT | | | | |
|--------------|---------|------|-------------------|----------------------------|
| Owner | Table | | Number of records | |
| SYS | PAYMENT | | 5000 | |
| Name | Type | Size | | Data |
| PAYMENT_ID | NUMBER | 6 | | Random(500000, 599999) |
| AMOUNT | FLOAT | 22 | | Random(40, 200) |
| PAYMENT_DATE | DATE | | | Random(1/1/2020, 1/6/2024) |
| * | | | | |

| EMPLOYEE_AT_TRAIL | | | | |
|-------------------|-------------------|------|-------------------|---|
| Owner | Table | | Number of records | |
| SYS | EMPLOYEE_AT_TRAIL | | 400 | |
| Name | Type | Size | | Data |
| EMPLOYEE_ID | NUMBER | 6 | | List(select employee_id from employees) |
| TRAIL_ID | NUMBER | 6 | | List(select trail_id from trails) |
| * | | | | |

| CUSTOMERS_PAYMENT | | | | |
|-------------------|-------------------|------|-------------------|---|
| Owner | Table | | Number of records | |
| SYS | CUSTOMERS_PAYMENT | | 400 | |
| Name | Type | Size | | Data |
| PAYMENT_ID | NUMBER | 6 | | List(select payment_id from Payment) |
| TRAVELER_ID | NUMBER | 6 | | List(select traveler_id from Customers) |
| * | | | | |

| BIKERS_ON_TRAIL | | | | |
|-----------------|-----------------|------|-------------------|---|
| Owner | Table | | Number of records | |
| SYS | BIKERS_ON_TRAIL | | 400 | |
| Name | Type | Size | | Data |
| TRAVELER_ID | NUMBER | 6 | | List(select traveler_id from Customers) |
| TRAIL_ID | NUMBER | 6 | | List(select trail_id from trails) |
| * | | | | |

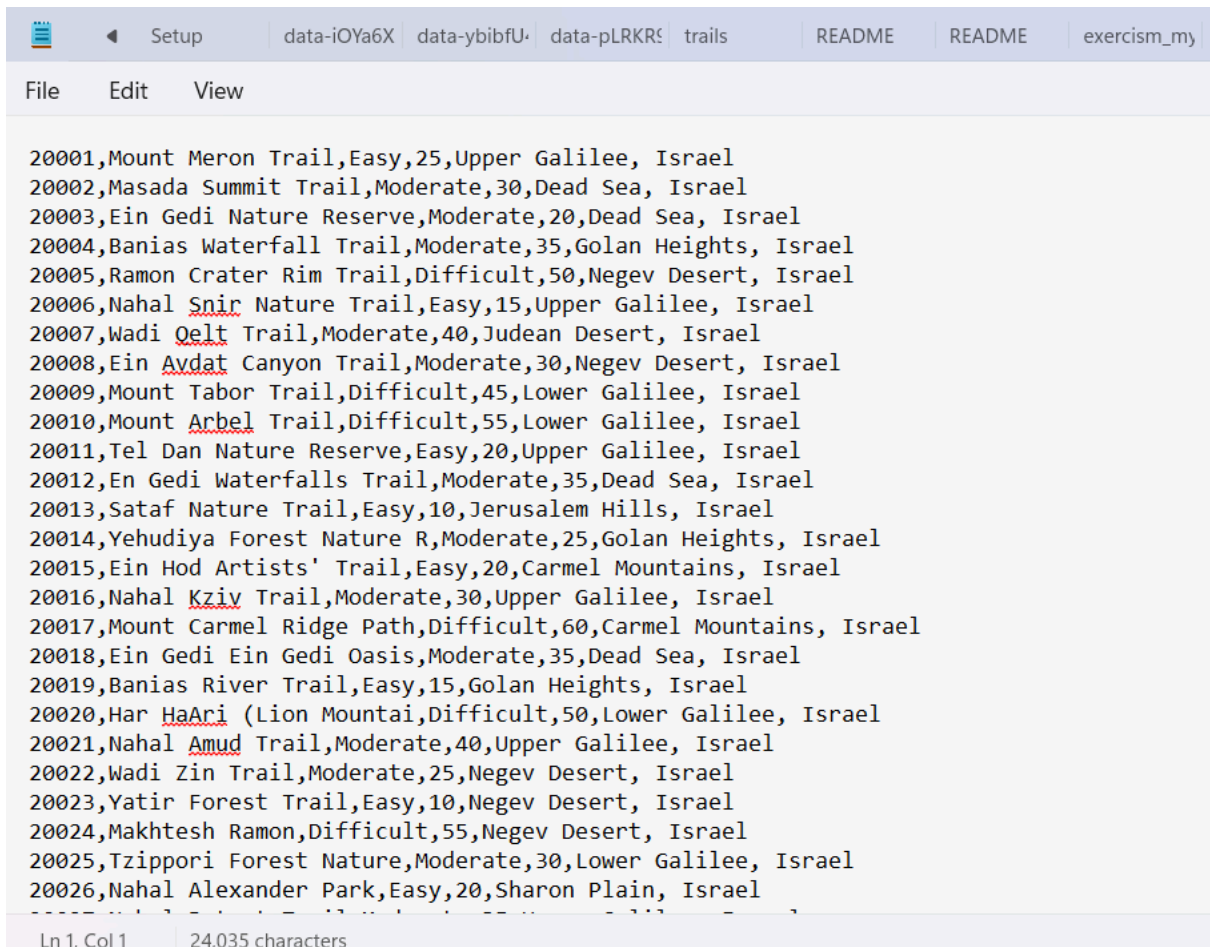
| HIKERS_ON_TRAIL | | | | |
|-----------------|--------|-----------------|--|---|
| Owner | | Table | | Number of records |
| SYS | | HIKERS_ON_TRAIL | | 400 |
| Name | Type | Size | | Data |
| TRAIL_ID | NUMBER | 6 | | List(select trail_id from Trails) |
| TRAVELER_ID | NUMBER | 6 | | List(select traveler_id from Customers) |
| * | | | | |

| BIKING_TRAILS | | | | |
|---------------------|----------|---------------|--|--|
| Owner | | Table | | Number of records |
| SYS | | BIKING_TRAILS | | 400 |
| Name | Type | Size | | Data |
| LENGTH | NUMBER | 5 | | Random(1, 10) |
| TERRAIN_DESCRIPTION | VARCHAR2 | 255 | | List('rocky', 'smooth', 'hilly', 'flat') |
| RENTAL_ON_SITE | VARCHAR2 | 50 | | List('yes', 'no') |
| TRAIL_ID | NUMBER | 6 | | List(select trail_id from Trails) |
| * | | | | |

| HIKING_TRAILS | | | | |
|--------------------|----------|---------------|--|--|
| Owner | | Table | | Number of records |
| SYS | | HIKING_TRAILS | | 400 |
| Name | Type | Size | | Data |
| DURATION | FLOAT | 22 | | Random(1, 15) |
| FAMILY_FRIENDLY | VARCHAR2 | 50 | | List('yes', 'no') |
| ACCESSIBILITY_INFO | VARCHAR2 | 255 | | List('wheelchair accessible', 'not wheelchair accessible') |
| TRAIL_ID | NUMBER | 6 | | List(select trail_id from Trails) |
| * | | | | |

| CUSTOMERS | | | | |
|-------------------|----------|-----------|--|-------------------------------|
| Owner | | Table | | Number of records |
| SYS | | CUSTOMERS | | 3000 |
| Name | Type | Size | | Data |
| TRAVELER_ID | NUMBER | 6 | | Random(300000, 399999) |
| TRAVELER_NAME | VARCHAR2 | 255 | | FirstName ' ' LastName |
| TRAVELER_AGE | NUMBER | 3 | | Random(1, 100) |
| CONTACT_INFO | NUMBER | | | '05' [0] '-' [000] '-' [0000] |
| NUMBER_OF_TRAVELE | NUMBER | 4 | | Random(1, 100) |
| TRIP_DATE | DATE | | | Random(1/1/2020, 1/6/2024) |
| * | | | | |

העלאת נתונים מקובץ txt.

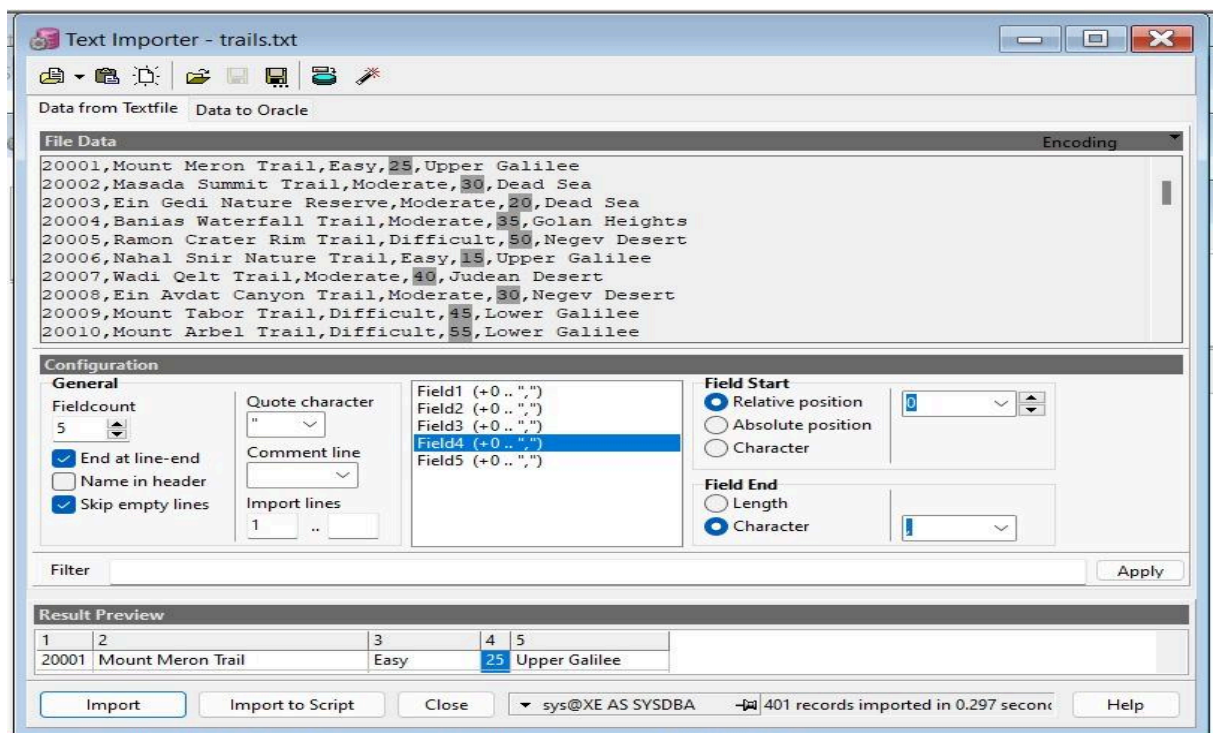


```

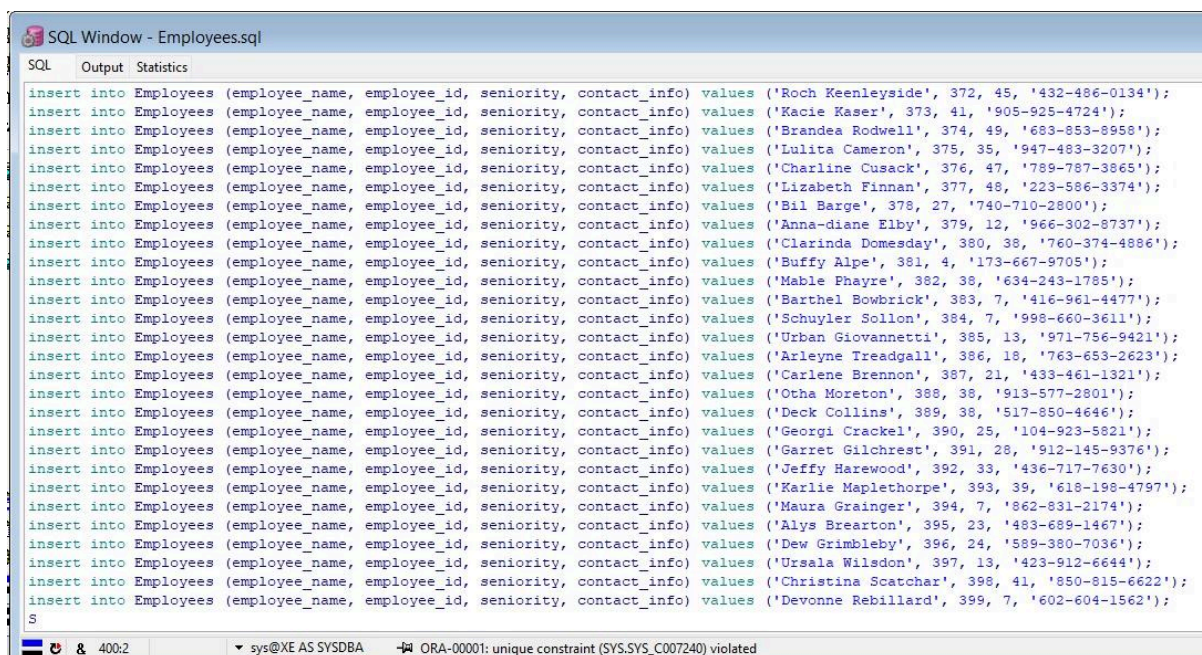
20001,Mount Meron Trail,Easy,25,Upper Galilee, Israel
20002,Masada Summit Trail,Moderate,30,Dead Sea, Israel
20003,Ein Gedi Nature Reserve,Moderate,20,Dead Sea, Israel
20004,Banias Waterfall Trail,Moderate,35,Golan Heights, Israel
20005,Ramon Crater Rim Trail,Difficult,50,Negev Desert, Israel
20006,Nahal Snir Nature Trail,Easy,15,Upper Galilee, Israel
20007,Wadi Qelt Trail,Moderate,40,Judean Desert, Israel
20008,Ein Avdat Canyon Trail,Moderate,30,Negev Desert, Israel
20009,Mount Tabor Trail,Difficult,45,Lower Galilee, Israel
20010,Mount Arbel Trail,Difficult,55,Lower Galilee, Israel
20011,Tel Dan Nature Reserve,Easy,20,Upper Galilee, Israel
20012,En Gedi Waterfalls Trail,Moderate,35,Dead Sea, Israel
20013,Sataf Nature Trail,Easy,10,Jerusalem Hills, Israel
20014,Yehudiya Forest Nature R,Moderate,25,Golan Heights, Israel
20015,Ein Hod Artists' Trail,Easy,20,Carmel Mountains, Israel
20016,Nahal Kziv Trail,Moderate,30,Upper Galilee, Israel
20017,Mount Carmel Ridge Path,Difficult,60,Carmel Mountains, Israel
20018,Ein Gedi Ein Gedi Oasis,Moderate,35,Dead Sea, Israel
20019,Banias River Trail,Easy,15,Golan Heights, Israel
20020,Har HaAri (Lion Mountai,Difficult,50,Lower Galilee, Israel
20021,Nahal Amud Trail,Moderate,40,Upper Galilee, Israel
20022,Wadi Zin Trail,Moderate,25,Negev Desert, Israel
20023,Yatir Forest Trail,Easy,10,Negev Desert, Israel
20024,Makhtesh Ramon,Difficult,55,Negev Desert, Israel
20025,Tzipori Forest Nature,Moderate,30,Lower Galilee, Israel
20026,Nahal Alexander Park,Easy,20,Sharon Plain, Israel

```

Ln 1, Col 1 24,035 characters



הכנסת נתונים דרך mockaroo:



SQL Window - Employees.sql

```
SQL      Output  Statistics
insert into Employees (employee_name, employee_id, seniority, contact_info) values ('Roch Keenleyside', 372, 45, '432-486-0134');
insert into Employees (employee_name, employee_id, seniority, contact_info) values ('Kacie Kaser', 373, 41, '905-925-4724');
insert into Employees (employee_name, employee_id, seniority, contact_info) values ('Brandea Rodwell', 374, 49, '683-853-8958');
insert into Employees (employee_name, employee_id, seniority, contact_info) values ('Lulita Cameron', 375, 35, '947-483-3207');
insert into Employees (employee_name, employee_id, seniority, contact_info) values ('Charline Cusack', 376, 47, '789-787-3865');
insert into Employees (employee_name, employee_id, seniority, contact_info) values ('Elizabeth Finnan', 377, 48, '223-586-3374');
insert into Employees (employee_name, employee_id, seniority, contact_info) values ('Bil Barge', 378, 27, '740-710-2800');
insert into Employees (employee_name, employee_id, seniority, contact_info) values ('Anna-diane Elby', 379, 12, '966-302-8737');
insert into Employees (employee_name, employee_id, seniority, contact_info) values ('Clarinda Domesday', 380, 38, '760-374-4886');
insert into Employees (employee_name, employee_id, seniority, contact_info) values ('Buffy Alpe', 381, 4, '173-667-9705');
insert into Employees (employee_name, employee_id, seniority, contact_info) values ('Mable Phayre', 382, 38, '634-243-1785');
insert into Employees (employee_name, employee_id, seniority, contact_info) values ('Barthel Bowbrick', 383, 7, '416-961-4477');
insert into Employees (employee_name, employee_id, seniority, contact_info) values ('Schuyler Sollon', 384, 7, '998-660-3611');
insert into Employees (employee_name, employee_id, seniority, contact_info) values ('Urban Giovannetti', 385, 13, '971-756-9421');
insert into Employees (employee_name, employee_id, seniority, contact_info) values ('Arleyne Treadgall', 386, 18, '763-653-2623');
insert into Employees (employee_name, employee_id, seniority, contact_info) values ('Carlene Brennon', 387, 21, '433-461-1321');
insert into Employees (employee_name, employee_id, seniority, contact_info) values ('Otha Moreton', 388, 38, '913-577-2801');
insert into Employees (employee_name, employee_id, seniority, contact_info) values ('Deck Collins', 389, 38, '517-850-4646');
insert into Employees (employee_name, employee_id, seniority, contact_info) values ('Georgi Crackel', 390, 25, '104-923-5821');
insert into Employees (employee_name, employee_id, seniority, contact_info) values ('Garret Gilchrest', 391, 28, '912-145-9376');
insert into Employees (employee_name, employee_id, seniority, contact_info) values ('Jeffy Harewood', 392, 33, '436-717-7630');
insert into Employees (employee_name, employee_id, seniority, contact_info) values ('Karlie Maplethorpe', 393, 39, '618-198-4797');
insert into Employees (employee_name, employee_id, seniority, contact_info) values ('Maura Grainger', 394, 7, '862-831-2174');
insert into Employees (employee_name, employee_id, seniority, contact_info) values ('Alys Brearton', 395, 23, '483-689-1467');
insert into Employees (employee_name, employee_id, seniority, contact_info) values ('Dew Grimbleby', 396, 24, '589-380-7036');
insert into Employees (employee_name, employee_id, seniority, contact_info) values ('Ursala Wilsdon', 397, 13, '423-912-6644');
insert into Employees (employee_name, employee_id, seniority, contact_info) values ('Christina Scatchar', 398, 41, '850-815-6622');
insert into Employees (employee_name, employee_id, seniority, contact_info) values ('Devonne Rebillard', 399, 7, '602-604-1562');
S
```

400:2 sys@XE AS SYSDBA ORA-00001: unique constraint (SYS.SYS_C007240) violated

תהליך הגייבוי:

| Name | Type | Compiled |
|----------------------------|-------|----------------------|
| BC_ATTRIBUTES\$ | TABLE | 9/28/2021 4:39:59 AM |
| BC_CHAIN\$ | TABLE | 9/28/2021 4:39:59 AM |
| BC_PEERS\$ | TABLE | 9/28/2021 4:39:59 AM |
| BC_TOMBSTONES\$ | TABLE | 9/28/2021 4:39:59 AM |
| BDSQL_USER_MAP | TABLE | 9/28/2021 4:44:57 AM |
| BIKERS_ON_TRAIL | TABLE | 5/26/2024 3:08:15 PM |
| BIKING_TRAILS | TABLE | 5/26/2024 3:08:15 PM |
| BLOCKCHAIN_TABLES\$ | TABLE | 9/28/2021 4:40:00 AM |
| BLOCKCHAIN_TABLE_CHAIN\$ | TABLE | 9/28/2021 4:40:00 AM |
| BLOCKCHAIN_TABLE_DROPPED\$ | TABLE | 9/28/2021 4:40:00 AM |
| BLOCKCHAIN_TABLE_EPOCH\$ | TABLE | 9/28/2021 4:40:00 AM |
| BOOTSTRAP\$ | TABLE | 9/28/2021 4:31:16 AM |
| CACHE_STATS\$ | TABLE | 9/28/2021 4:33:35 AM |

User: <CURRENT USER>

Oracle Export SQL Inserts PL/SQL Developer

☐ Drop tables
☒ Create tables
☐ Truncate tables
☒ Delete records
☒ Disable triggers

☒ Disable foreign key constraints
☒ Include storage
☒ Include privileges

Commit every 0 records (0 = never)

☐ Zip Where clause

Output file: C:\Users\USER\Desktop\Data Base\BackUp1.sql

Export

☐ Use Command Window
☒ Use SQL*Plus

SQL*Plus Executable

C:\app\USER\product\21c\dbhomeXE\bin\sqlpl

Import file

C:\Users\USER\Desktop\Data Base\BackUp.sql

Import

sys@XE AS SYSDBA Executing Oracle SQL*Plus Utility, please wait... Done


```

prompt PL/SQL Developer import file
prompt Created on Sunday, 26 May 2024 by Esther Malka
set feedback off
set define off
prompt Creating TRAILS...
create table TRAILS
(
    trail_name          VARCHAR2(255) not null,
    trail_id            NUMBER(6) not null,
    difficulty_level    VARCHAR2(50) not null,
    location            VARCHAR2(255) not null,
    price              FLOAT not null
)
;
alter table TRAILS
    add primary key (TRAIL_ID)
;

prompt Creating BIKING_TRAILS...
create table BIKING_TRAILS
(
    length              NUMBER(5) not null,
    terrain_description VARCHAR2(255),
    rental_on_site      VARCHAR2(50) not null,
    trail_id            NUMBER(6) not null
)
;
alter table BIKING_TRAILS
    add primary key (TRAIL_ID)
;
alter table BIKING_TRAILS
    add foreign key (TRAIL_ID)
        references TRAILS (TRAIL_ID);

prompt Creating CUSTOMERS...
create table CUSTOMERS
(
    traveler_id        NUMBER(6) not null,
    traveler_name      VARCHAR2(255) not null,
    traveler_age        NUMBER(3),
    contact_info        INTEGER,
    number_of_travelers NUMBER(4) not null,
    trip_date           DATE not null
)
;
alter table CUSTOMERS
    add primary key (TRAVELER_ID)

```