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| Jan Kochanowski University of Kielce | |
| Subject: Bazy Danych 2 | |
| Project Title: Zoo Database | |
| Maciej Pabis | Academic year: 2022/2023 |

1. Environment:

Work and testing were conducted in the Oracle SQL environment using the browser-based Live SQL version.

2. Description:

The project involves creating a database for a local zoo to store information about animals, enclosures, employees, and their salaries. The database structure includes the main table, "Animals," serving as the central point for animal-related data. Each record in this table is uniquely assigned to a specific enclosure and designated employees.

The database schema also incorporates information such as employee positions, technical maintenance of enclosures, and details regarding the weight, age, and personal caretaker of each animal.

3. Description of tables:

Table „ZWIERZETA”:

Primary key: ID

Foreign key: ID_ZAGRODY(Reference ZAGRODY), ID_OPIEKUNA(Reference PRACOWNICY)

Cols: GATUNEK, IMIE, WAGA, OD_KIEDY, WIEK

Table „ZAGRODY”:

Primary key: ID_ZAGRODY

Foreign key: ID_SPRZATACZA(Reference PRACOWNICY), ID_POMOCNIKA(Reference PRACOWNICY)

Cols: SRODOWISKO, ROZMIAR, MAX_ZWIERZAT, DNI_SPRZATANIA, DATA_OTWARCIA

Table „PRACOWNICY”:

Primary key: ID_PRACOWNIKA

Cols: IMIE, NAZWISKO, PESEL, DATA_ZATRUDNIENIA, STANOWISKO, PENSJA_MIESIECZNA, DODATEK_DO_PENSJI

Table „PENSJA”:

Primary key: ETAT

Cols: DODATEK

4. Queries to the database:

Displaying all records from the database.

select * from pracownicy; select * from pensja; select * from zagrody; select * from zwierzeta;

| ID_PRACOWNIKA | IMIE | NAZWISKO | PESEL | DATA_ZATRUDNIENIA | STANOWISKO | PENSJA_MIESIECZNA | DODATEK_DO_PENSJI |
|---------------|-----------|------------|-------------|-------------------|--------------------|-------------------|-------------------|
| 1 | RADOSLAW | KOTARSKI | 50061679279 | 29-MAR-18 | OPIEKUN | 2250 | 300 |
| 2 | JAN | KAMINSKI | 81032236498 | 13-FEB-13 | SPRZATACZ | 1250 | 150 |
| 3 | KRZYSZTOF | CZAJKA | 92030798255 | 23-JUN-22 | PRAKTYKANT | 500 | - |
| 4 | ZUZANNA | PATYK | 15323478515 | 11-MAR-15 | OPIEKUN | 2500 | 540 |
| 5 | KRZYSZTOF | MIRKIEWICZ | 12332156723 | 01-FEB-22 | SPRZATACZ | 1100 | 150 |
| 6 | ADAM | MALYSZ | 54367945637 | 11-DEC-01 | SPRZATACZ PODWODNY | 7555 | 1300 |
| 7 | JAKUB | PEDZIWIŁK | 92574589666 | 15-FEB-07 | SPRZATACZ PODWODNY | 6200 | 1300 |
| 8 | ARKADIUSZ | KRECIK | 45645677912 | 11-NOV-20 | SPRZATACZ | 1500 | 150 |
| 9 | BARBARA | KRZYWDA | 62956002111 | 02-JUN-21 | PRAKTYKANT | 700 | - |

| ETAT | DODATEK |
|--------------------|---------|
| OPIEKUN | 300 |
| SPRZATACZ | 150 |
| PRAKTYKANT | - |
| OPIEKUN STARSZY | 540 |
| SPRZATACZ PODWODNY | 1300 |

| ID_ZAGRODY | SRODOWISKO | ROZMIAR | MAX_ZWIERZAT | ID_SPRZATACZA | DNI_SPRZATANIA | ID_POMOCNIKA | DATA_OTWARCIA |
|------------|--------------------|---------|--------------|---------------|----------------|--------------|---------------|
| 1 | WIEJSKIE | 500 | 7 | 2 | PON,SR,SB | 3 | 09-FEB-13 |
| 2 | WIEJSKIE | 400 | 15 | 5 | WT,SR,PT | 3 | 11-DEC-15 |
| 3 | OCEAN | 1025 | 2 | 6 | NDZ | - | 12-DEC-01 |
| 4 | OCEAN ANTARKTYCZNY | 750 | 8 | 7 | NDZ | 16 | 12-DEC-01 |
| 5 | OCEAN GLEBINOWY | 750 | 6 | 7 | NDZ | - | 12-DEC-01 |
| 6 | ARKTYKA | 675 | 12 | 8 | PON,CZW | 9 | 06-JAN-17 |
| 7 | ARKTYKA | 345 | 6 | 8 | WT,CZW,SB,NDZ | 9 | 23-APR-04 |
| 8 | ARKTYKA | 500 | 10 | 12 | PT,NDZ | - | 08-SEP-09 |
| 9 | AFRYKA | 350 | 12 | 19 | PON,WT,SR | 16 | 11-DEC-12 |

| ID | GATUNEK | IMIE | WAGA | OD_KIEDY | WIEK | ID_ZAGRODY | ID_OPIEKUNA |
|----|----------|-----------|------|-----------|------|------------|-------------|
| 1 | ALPAKA | HOSIA | 52 | 19-AUG-20 | 18 | 1 | 1 |
| 2 | JASTRZAB | REN GER | 5 | 30-APR-16 | 7 | 12 | 24 |
| 3 | ALPAKA | TOSIA | 45 | 12-NOV-20 | 11 | 1 | 1 |
| 4 | KROWA | TADEUSZ | 90 | 19-DEC-20 | 5 | 1 | 4 |
| 5 | KROWA | KORNISZON | 95 | 25-MAY-15 | 7 | 1 | 4 |
| 6 | BYK | JANUSZ | 115 | 19-FEB-17 | 6 | 1 | 4 |
| 7 | KURA | BASIA | 3 | 19-NOV-18 | 4 | 1 | 13 |
| 8 | MORSWIN | MACIEJ | 74 | 11-MAY-22 | 2 | 4 | 15 |
| 9 | KURA | JANKA | 3 | 17-DEC-18 | 6 | 2 | 13 |

Number of enclosures for each environment in descending order.

select srodowisko, count(*) as ILE from zagrody group by srodowisko order by ILE desc;

| SRODOWISKO | ILE |
|-----------------|-----|
| ARKTYKA | 3 |
| WIEJSKIE | 2 |
| AFRYKA | 1 |
| LAS ROWNIKOWY | 1 |
| OCEAN | 1 |
| TERRARIA | 1 |
| STEP | 1 |
| STEP Z JEZIOREM | 1 |
| OCEAN GLEBINOWY | 1 |

IDs of animals with the IDs of the assigned employees.

select z.id as zwierze,z.id_opiekuna as prac,g.id_sprzaczka as sprz,g.id_pomocnika as pomoc from
zwierzeta z inner join zagrody g on z.id_zagrody=g.id_zagrody;

| ZWIERZE | PRAC | SPRZ | POMOC |
|---------|------|------|-------|
| 1 | 1 | 2 | 3 |
| 2 | 24 | 22 | 20 |
| 3 | 1 | 2 | 3 |
| 4 | 4 | 2 | 3 |
| 5 | 4 | 2 | 3 |
| 6 | 4 | 2 | 3 |
| 7 | 13 | 2 | 3 |
| 8 | 15 | 7 | 16 |
| 9 | 13 | 5 | 3 |

IDs of enclosures with the total number of animals and their total weight.

```
select g.id_zagrody,g.srodowisko,g.rozmiar,count(*) as licz_zwierzat,sum(z.waga) from zwierzeta z
inner join zagrody g on z.id_zagrody=g.id_zagrody group by (g.id_zagrody,g.srodowisko,g.rozmiar)
order by g.id_zagrody;
```

| ID_ZAGRODY | SRODOWISKO | ROZMIAR | LICZA_ZWIERZAT | SUM(Z.WAGA) |
|------------|--------------------|---------|----------------|-------------|
| 1 | WIEJSKIE | 500 | 7 | 444 |
| 2 | WIEJSKIE | 400 | 3 | 14 |
| 3 | OCEAN | 1025 | 2 | 86920 |
| 4 | OCEAN ANTARKTYCZNY | 750 | 6 | 362 |
| 5 | OCEAN GLEBINOWY | 750 | 5 | 23956 |
| 6 | ARKTYKA | 675 | 7 | 1063 |
| 7 | ARKTYKA | 345 | 4 | 805 |
| 8 | ARKTYKA | 500 | 6 | 143 |
| 9 | AFRYKA | 350 | 5 | 16250 |

Animals whose age is greater than or equal to the average age of all animals.

```
select * from zwierzeta z where z.wiek>=(select avg(x.wiek) from zwierzeta x where  
x.id_zagrody=z.id_zagrody);
```

| ID | GATUNEK | IMIE | WAGA | OD_KIEDY | WIEK | ID_ZAGRODY | ID_OPIEKUNA |
|----|--------------|-----------|-------|-----------|------|------------|-------------|
| 1 | ALPAKA | HOSIA | 52 | 19-AUG-20 | 18 | 1 | 1 |
| 2 | JASTRZAB | REN GER | 5 | 30-APR-16 | 7 | 12 | 24 |
| 3 | ALPAKA | TOSIA | 45 | 12-NOV-20 | 11 | 1 | 1 |
| 9 | KURA | JANKA | 3 | 17-DEC-18 | 6 | 2 | 13 |
| 10 | KACZKA | SKOCZKA | 5 | 05-NOV-22 | 7 | 2 | 15 |
| 12 | WIELORYB | KRUSZYŃKA | 45920 | 19-JUL-08 | 45 | 3 | 13 |
| 13 | ALPAKA | ZOSIA | 44 | 11-MAY-15 | 12 | 1 | 1 |
| 18 | KROWA MORSKA | MUCKA | 112 | 23-JUL-08 | 22 | 4 | 17 |
| 19 | KROWA MORSKA | PLOTKARA | 99 | 25-FEB-01 | 34 | 4 | 17 |