**ASSIGNMENT 4**

**(DATABASE WORKLOAD)**

**ADB B3 Bauyrzhan Marat**

1. **Query**

select animals.animal\_name, animals.age as animal\_age, animals.domesticated, villagers.first\_name as villager\_name,

villagers.animal\_id, villagers.age as villager\_age from animals

full outer join villagers on animals.animal\_id = villagers.villager\_id

full outer join families on villagers.family\_id = families.family\_id

full outer join housings on families.house\_id = housings.house\_id

where competence\_bonus > 0.5

or villagers.school\_id in (select villagers.competence from villagers join schools on villagers.school\_id = schools.school\_id);

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 1st run | 2nd run | 3rd run | 4th run | 5th run |
| 3,058 | 3,01 | 3,008 | 2,988 | 2,973 |

|  |  |  |
| --- | --- | --- |
| MIN | MAX | AVG |
| 2,973 | 3,058 | 3,0074 |

1. **Query**

select count(\*) from (

select villagers.first\_name, villagers.last\_name, villagers.age as villagers\_age, villagers.school\_id,

families.family\_happiness, villagers.gender,

housings.condition, cast ((housings.size\_in\_m2 / 100) as INT) as string\_size from villagers

full outer join families on villagers.family\_id = families.family\_id

full outer join housings on families.house\_id = housings.house\_id

where housings.village\_id in (select villages.village\_id from villages join housings on housings.village\_id = villages.village\_id)

or housings.condition > 0.8);

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 1st run | 2nd run | 3rd run | 4th run | 5th run |
| 10,546 | 10,606 | 10,869 | 10,55 | 10,823 |

|  |  |  |
| --- | --- | --- |
| MIN | MAX | AVG |
| 10,546 | 10,869 | 10,67 |

1. **Query**

select count(\*) from (

select \* from villagers

full outer join animals on animals.animal\_id = villagers.animal\_id

full outer join families on villagers.family\_id = families.family\_id

full outer join housings on housings.house\_id = families.house\_id

full outer join villages on villages.village\_id = housings.village\_id

full outer join locations on locations.location\_id = villages.location\_id

where animals.animal\_id in

(select animals.animal\_id from animals where animals.animal\_id in

(select animal\_id from animals where animal\_name like 'Gol%' and (substr(animal\_name, 7,2) like 'ey')))

or villagers.school\_id is not null

or villages.popularity > 0.5

or locations.condition >= (select avg(condition) from locations));

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 1st run | 2nd run | 3rd run | 4th run | 5th run |
| 1,674 | 1,579 | 1,6 | 1,155 | 1,182 |

|  |  |  |
| --- | --- | --- |
| MIN | MAX | AVG |
| 1,155 | 1,674 | 1,438 |

1. **Transaction**

update jobs

set wage = 17

where risk\_factor > (select avg(risk\_factor) from jobs)

or round(required\_competence) >= (select round(avg(required\_competence)) from jobs)

or substr(job\_name, 2,3) like '%ata%' and end > '04/20/1948'

or job\_id in (select job\_id from locations

where number\_of\_trees > (select avg(number\_of\_trees) from locations));

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 1st run | 2nd run | 3rd run | 4th run | 5th run |
| 7,428 | 9,477 | 8,509 | 9,419 | 7,527 |

|  |  |  |
| --- | --- | --- |
| MIN | MAX | AVG |
| 7,428 | 9,477 | 8,472 |

1. **Transaction**

delete from VILLAGERS

where first\_name = 'Burnard' and gender = 'female'

or substr(last\_name, 2,3) not like '%a' and hapiness < (select avg(hapiness) from villagers);

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 1st run | 2nd run | 3rd run | 4th run | 5th run |
| 4,251 | 4,523 | 4,609 | 4,677 | 4,571 |

|  |  |  |
| --- | --- | --- |
| MIN | MAX | AVG |
| 4,251 | 4,677 | 4,526 |

1. **Transaction**

update villages

set popularity = (select avg(popularity) from villages

where villages.village\_id in (select villages.village\_id from housings join villages on housings.village\_id = villages.village\_id)

and substr(village\_name, 2,3) like '%aji%' and hospital <> 'false'

or location\_id in (select location\_id from locations

where number\_of\_trees > (select avg(number\_of\_trees) from locations)));

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 1st run | 2nd run | 3rd run | 4th run | 5th run |
| 3,244 | 3,605 | 3,447 | 3,523 | 3,369 |

|  |  |  |
| --- | --- | --- |
| MIN | MAX | AVG |
| 3,244 | 3,605 | 3,437 |