

Queries Nivel C:

- **Query C/1: The average, the minimum, the maximum, and the standard deviation of the number of fix-up tasks per user.**

```
select avg(c.fixUpTasks.size), min(c.fixUpTasks.size) , max(c.fixUpTasks.size),  
sqrt(sum(c.fixUpTasks.size*c.fixUpTasks.size)/count(c.fixUpTasks.size)-  
(avg(c.fixUpTasks.size)*avg(c.fixUpTasks.size))) from Customer c;
```

- **Descripción:**

Mediante esta consulta se obtiene el promedio, el mínimo, el máximo y la desviación estándar del número de fix-up tasks de por usuario.

- **Resultado:**

1 object selected

[1.5, 1, 2, 0.5]

- **Query C/2: The average, the minimum, the maximum, and the standard deviation of the number of applications per fix-up task.**

```
select avg(f.applications.size), min(f.applications.size) , max(f.applications.size),  
sqrt(sum(f.applications.size*f.applications.size)/count(f.applications.size)-  
(avg(f.applications.size)*avg(f.applications.size))) from FixUpTask f;
```

- **Descripción:**

Mediante esta consulta se obtiene el promedio, el mínimo, el máximo y la desviación estándar del número de applications por fix-up tasks.

- **Resultado:**

1 object selected

[1.0, 0, 2, 0.8164965805194777]

- **Query C/3: The average, the minimum, the maximum, and the standard deviation of the maximum price of the fix-up tasks.**

```
select avg(f.maxPrice), min(f.maxPrice) , max(f.maxPrice),
sqrt(sum(f.maxPrice*f.maxPrice)/count(f.maxPrice)-(avg(f.maxPrice)*avg(f.maxPrice)))
from FixUpTask f;
```

- **Descripción:**

Mediante esta consulta se obtiene el promedio, el mínimo, el máximo y la desviación estándar del precio máximo de fix-up tasks.

- **Resultado:**

1 object selected

[161.33333333333334, 135.0, 200.0, 27.932458220182106]

- **Query C/4: The average, the minimum, the maximum, and the standard deviation of the price offered in the applications.**

```
select avg(a.offeredPrice), min(a.offeredPrice) , max(a.offeredPrice),
sqrt(sum(a.offeredPrice*a.offeredPrice)/count(a.offeredPrice)-
(avg(a.offeredPrice)*avg(a.offeredPrice))) from Application a;
```

- **Descripción:**

Mediante esta consulta se obtiene el promedio, el mínimo, el máximo y la desviación estándar del precio que se ofrecido en las fix-up tasks.

- **Resultado:**

1 object selected

[183.33333333333334, 120.0, 250.0, 53.124591501697395]

- **Query C/5: The ratio of pending applications.**

```
select sum(case when a.status = 'PENDING' then 1.0 else 0.0 end)/count(a) from  
Application a;
```

- **Descripción:**

Mediante esta consulta se calcula la proporción de applications pendientes.

Se realiza la suma de todas las applications con estado igual a “PENDING”, en caso de que haya alguna se agregan y se divide esta suma entre todas las applications.

- **Resultado:**

1 object selected

0.33333

- **Query C/6: The ratio of accepted applications.**

```
select sum(case when a.status='ACCEPTED' then 1.0 else 0.0 end)/count(a) from  
Application a;
```

- **Descripción:**

Mediante esta consulta se calcula la proporción de applications pendientes.

Se realiza la suma de todas las applications con estado igual a “ACCEPTED”, en caso de que haya alguna se agregan y se divide esta suma entre todas las applications.

- **Resultado:**

1 object selected

0.33333

- **Query C/7: The ratio of rejected applications.**

select sum(case when a.status='REJECTED' then 1.0 else 0.0 end)/count(a) from Application a;

- **Descripción:**

Mediante esta consulta se calcula la proporción de applications pendientes.

Se realiza la suma de todas las applications con estado igual a “REJECTED”, en caso de que haya alguna se agregan y se divide esta suma entre todas las applications.

- **Resultado:**

1 object selected

0.33333

- **Query C/8: The ratio of pending applications that cannot change its status because their time period's elapsed.**

select a from Application a where a.status='PENDING' and a.registerMoment < CURRENT_DATE;

- **Descripción:**

Mediante esta consulta se obtiene la proporción de applications con estado igual a “PENDING” que no pueden cambiar este estado por el período de tiempo transcurrido.

Se calcula indicando que el estado de la application sea igual a ‘PENDING’ y el momento en el que se registro anterior a la fecha actual.

- **Resultado:**

1 object selected

domain.Application{id=1221, version=0}

domain.DomainEntity::id: int = 1221

domain.DomainEntity::version: int = 0

domain.Application::registerMoment: java.util.Date = <<2016-10-04>>

domain.Application::status: java.lang.String = "PENDING"

domain.Application::offeredPrice: double = 180.0

domain.Application::comment: java.lang.String = "Comment ap2"

domain.Application::reasonDenied: java.lang.String = null

domain.Application::creditcard: domain.CreditCard = null

domain.Application::handyWorker: domain.HandyWorker =

domain.HandyWorker{id=1171, version=0}

domain.Application::fixUpTask: domain.FixUpTask =

domain.FixUpTask{id=1217, version=0}

- **Query C/9: The listing of customers who have published at least 10% more fix-up tasks than the average, ordered by number of applications.**

```
select f.customer from FixUpTask f group by f.customer having count(f) >=
1.1*((select count(t) from FixUpTask t)/(select count(c) from Customer c)) order
by f.applications.size;
```

- **Descripción:**

Mediante esta consulta se obtienen los customers que han publicado al menos un 10% más de tareas de fix-up tasks que el promedio, ordenadas por número de applications.

Se usa el operador having para obtener los customers.

Se compara el número de todas las fix-up tasks con la operación que cuenta todas esas fix-up tasks, haciendo uso del operador count() y este resultado se divide por el resultado de otra consulta en la que se calcula si las applications de HandyWorker son más del 10% que el promedio.

- **Resultado:**

1 object selected

domain.Customer{id=1140, version=0}

domain.DomainEntity::id: int = 1140

domain.DomainEntity::version: int = 0

domain.Actor::name: java.lang.String = "Antonio"

domain.Actor::middleName: java.lang.String = ""

domain.Actor::surname: java.lang.String = "Ramirez"

domain.Actor::email: java.lang.String = "anra@gmail.com"

domain.Actor::phone: java.lang.String = "632014785"

domain.Actor::address: java.lang.String = "Calle Huelva 6"

domain.Actor::Photo: java.lang.String = "http://www.photoan.png"

domain.Actor::suspicious: boolean = false

domain.Actor::userAccount: security.UserAccount =
security.UserAccount{id=1118, version=0}

domain.Actor::boxes: java.util.Collection = [domain.Box{id=1203, version=0},
domain.Box{id=1204, version=0}, domain.Box
{id=1205, version=0}, domain.Box{id=1206, version=0}, domain.Box{id=1207,
version=0}, domain.Box{id=1208, version=0}]

domain.Actor::socialProfiles: java.util.Collection =
[domain.SocialProfile{id=1201, version=0}]

domain.Customer::score: double = 0.25

domain.Customer::fixUpTasks: java.util.Collection =
[domain.FixUpTask{id=1216, version=0}, domain.FixUpTask{id=1218, ve
rsion=0}]

- **Query C/10: The listing of handy workers who have got accepted at least 10% more applications than the average, ordered by number of applications.**

```
select h1 from HandyWorker h1 where h1.applications.size/ (select
avg(h2.applications.size) from HandyWorker h2)>=1.1 order by
h1.applications.size;
```

- **Descripción:**

Mediante esta consulta se obtienen los handyWorkers que han aceptado al menos un 10% más de tareas de fix-up tasks que el promedio, ordenadas por número de applications.

Esta consulta devuelve la lista de trabajadores útiles que han aceptado al menos un 10% más de applications que el promedio, ordenadas por el número de applications.

Se ha calculado si las applications son mas del 10% usando el operador avg y comparando que sean mayores al valor 1.1.

- **Resultado:**

2 objects selected

domain.HandyWorker{id=1171, version=0}

domain.DomainEntity::id: int = 1171

domain.DomainEntity::version: int = 0

domain.Actor::name: java.lang.String = "Lucia"

domain.Actor::middleName: java.lang.String = null

domain.Actor::surname: java.lang.String = "Cumplido"

domain.Actor::email: java.lang.String = "lucu@outlook.com"

domain.Actor::phone: java.lang.String = "654121078"

domain.Actor::address: java.lang.String = "Calle Torero 14"

domain.Actor::Photo: java.lang.String = "http://www.photocum.es"

domain.Actor::suspicious: boolean = false

domain.Actor::userAccount: security.UserAccount = security.UserAccount{id=1121, version=0}

domain.Actor::boxes: java.util.Collection = []

```
domain.Actor::socialProfiles: java.util.Collection = []

domain.HandyWorker::make: java.lang.String = "Make 2"

domain.HandyWorker::score: double = 0.5

domain.HandyWorker::tutorials: java.util.Collection = []

domain.HandyWorker::curriculum: domain.Curriculum = null

domain.HandyWorker::finder: domain.Finder = domain.Finder{id=1164, version=0}

domain.HandyWorker::applications: java.util.Collection =
[domain.Application{id=1221, version=0}]

domain.HandyWorker{id=1170, version=1}

  domain.DomainEntity::id: int = 1170

  domain.DomainEntity::version: int = 1

  domain.Actor::name: java.lang.String = "Sara"

  domain.Actor::middleName: java.lang.String = ""

  domain.Actor::surname: java.lang.String = "Jimenez"

  domain.Actor::email: java.lang.String = "handyworkersa@gmail.com"

  domain.Actor::phone: java.lang.String = "654123058"

  domain.Actor::address: java.lang.String = "Calle Rio 2"

  domain.Actor::Photo: java.lang.String = "http://www.photosa.png"

  domain.Actor::suspicious: boolean = false

  domain.Actor::userAccount: security.UserAccount = security.UserAccount{id=1120,
version=0}

  domain.Actor::boxes: java.util.Collection = []

  domain.Actor::socialProfiles: java.util.Collection = [domain.SocialProfile{id=1202,
version=0}]

  domain.HandyWorker::make: java.lang.String = "Make 1"

  domain.HandyWorker::score: double = 0.0

  domain.HandyWorker::tutorials: java.util.Collection = []

  domain.HandyWorker::curriculum: domain.Curriculum = domain.Curriculum{id=1222,
version=0}

  domain.HandyWorker::finder: domain.Finder = domain.Finder{id=1163, version=0}

  domain.HandyWorker::applications: java.util.Collection =
[domain.Application{id=1219, version=0}, domain.Application{id
=1220, version=0}]
```


Queries Nivel B:

- **Query B/1: The minimum, the maximum, the average, and the standard deviation of the number of complaints per fix-up task.**

```
select min(f.complaints.size), max(f.complaints.size), avg(f.complaints.size),  
sqrt(sum(f.complaints.size*f.complaints.size)/count(f.complaints.size)-  
(avg(f.complaints.size)*avg(f.complaints.size))) from FixUpTask f;
```

- **Descripción:**

Mediante esta consulta se obtiene el promedio, el mínimo, el máximo y la desviación estándar del número de complaints por fix-up tasks.

- **Resultado:**

1 object selected

[1, 1, 1.0, 0.0]

- **Query B/2: The minimum, the maximum, the average, and the standard deviation of the number of notes per referee report.**

- **Descripción:**

Mediante esta consulta se obtiene el promedio, el mínimo, el máximo y la desviación estándar del número de notes por referee report.

- **Resultado:**

1 object selected

[1, 1, 1.0, 0.0]

- **Query B/3: The ratio of fix-up tasks with a complaint.**

```
select count(c)/(select count(f) from FixUpTask f)*1.0 from FixUpTask c where  
c.complaints.size = 1;
```

- **Descripción:**

Mediante esta consulta se obtiene la proporción de fix-up task con una complaint.

- **Resultado:**

1 object selected

1.0

- **Query B/4: The top-three customers in terms of complaints.**

```
select c from Customer c join c.fixUpTasks f group by f.customer order by  
f.complaints.size DESC;
```

- **Descripción:**

Mediante esta consulta se obtienen los customers ordenados por su número de complaints.

Se hace uso del operador join para obtener las fix-up tasks que ha realizado un customer.

Se utiliza el operador group by para obtener todas esas fix-up task agrupadas a customer.

Por ultimo se usa el operador order by para ordenar el numero de complaints de forma descendente.

- **Resultado:**

2 objects selected

domain.Customer{id=1140, version=0}

domain.DomainEntity::id: int = 1140

domain.DomainEntity::version: int = 0

domain.Actor::name: java.lang.String = "Antonio"

domain.Actor::middleName: java.lang.String = ""

```
domain.Actor::surname: java.lang.String = "Ramirez"
domain.Actor::email: java.lang.String = "anra@gmail.com"
domain.Actor::phone: java.lang.String = "632014785"
domain.Actor::address: java.lang.String = "Calle Huelva 6"
domain.Actor::Photo: java.lang.String = "http://www.photoan.png"
domain.Actor::suspicious: boolean = false

domain.Actor::userAccount: security.UserAccount =
security.UserAccount{id=1118, version=0}

domain.Actor::boxes: java.util.Collection = [domain.Box{id=1203, version=0},
domain.Box{id=1204, version=0}, domain.Box
{id=1205, version=0}, domain.Box{id=1206, version=0}, domain.Box{id=1207,
version=0}, domain.Box{id=1208, version=0}]

domain.Actor::socialProfiles: java.util.Collection =
[domain.SocialProfile{id=1201, version=0}]

domain.Customer::score: double = 0.25

domain.Customer::fixUpTasks: java.util.Collection =
[domain.FixUpTask{id=1216, version=0}, domain.FixUpTask{id=1218, ve
rsion=0}]
domain.Customer{id=1141, version=0}

domain.DomainEntity::id: int = 1141
domain.DomainEntity::version: int = 0
domain.Actor::name: java.lang.String = "Maria"
domain.Actor::middleName: java.lang.String = "Isabel"
domain.Actor::surname: java.lang.String = "Martinez Gomez"
domain.Actor::email: java.lang.String = "customer2@gmail.com"
domain.Actor::phone: java.lang.String = "632014700"
domain.Actor::address: java.lang.String = "Calle Pedro Ramirez 1"
domain.Actor::Photo: java.lang.String = "http://www.photora.jpg"
domain.Actor::suspicious: boolean = false

domain.Actor::userAccount: security.UserAccount =
security.UserAccount{id=1119, version=0}
```

```
domain.Actor::boxes: java.util.Collection = [domain.Box{id=1209, version=0},
domain.Box{id=1210, version=0}, domain.Box
{id=1211, version=0}, domain.Box{id=1212, version=0}, domain.Box{id=1213,
version=0}]
```

```
domain.Actor::socialProfiles: java.util.Collection = []
```

```
domain.Customer::score: double = 0.0
```

```
domain.Customer::fixUpTasks: java.util.Collection =
[domain.FixUpTask{id=1217, version=0}]
```

- **Query B/5: The top-three handy workers in terms of complaints.**

```
select h from HandyWorker h join h.applications a join a.fixUpTask f group by a.handyWorker
order by f.complaints.size DESC;
```

- **Descripción:**

Mediante esta consulta se obtienen los HandyWorkers ordenados por su número de complaints.

Se realiza un join para calcular todas las applications que realizado un HandyWorker y seguidamente otro join para obtener todas las fixUpTasks que estan asociadas con cada una de las applications de HandyWorker.

Mediante el operador group by se obtienen todas las complaints con cada una de las fixUpTasks de HandyWorker.

Para finalizar, mediante el operador order by se ordenan las complaints de las fixUpTask descendientemente.

- **Resultado:**

2 objects selected

```
domain.HandyWorker{id=1170, version=1}
```

```
domain.DomainEntity::id: int = 1170
```

```
domain.DomainEntity::version: int = 1
```

```
domain.Actor::name: java.lang.String = "Sara"
```

```
domain.Actor::middleName: java.lang.String = ""
```

```
domain.Actor::surname: java.lang.String = "Jimenez"
```

```
domain.Actor::email: java.lang.String = "handyworkersa@gmail.com"
```

```
domain.Actor::phone: java.lang.String = "654123058"
```

```
domain.Actor::address: java.lang.String = "Calle Rio 2"
domain.Actor::Photo: java.lang.String = "http://www.photosa.png"
domain.Actor::suspicious: boolean = false
domain.Actor::userAccount: security.UserAccount = security.UserAccount{id=1120,
version=0}
domain.Actor::boxes: java.util.Collection = []
domain.Actor::socialProfiles: java.util.Collection = [domain.SocialProfile{id=1202,
version=0}]
domain.HandyWorker::make: java.lang.String = "Make 1"
domain.HandyWorker::score: double = 0.0
domain.HandyWorker::tutorials: java.util.Collection = []
domain.HandyWorker::curriculum: domain.Curriculum = domain.Curriculum{id=1222,
version=0}
domain.HandyWorker::finder: domain.Finder = domain.Finder{id=1163, version=0}
domain.HandyWorker::applications: java.util.Collection =
[domain.Application{id=1219, version=0}, domain.Application{id
=1220, version=0}]
domain.HandyWorker{id=1171, version=0}
domain.DomainEntity::id: int = 1171
domain.DomainEntity::version: int = 0
domain.Actor::name: java.lang.String = "Lucia"
domain.Actor::middleName: java.lang.String = null
domain.Actor::surname: java.lang.String = "Cumplido"
domain.Actor::email: java.lang.String = "lucu@outlook.com"
domain.Actor::phone: java.lang.String = "654121078"
domain.Actor::address: java.lang.String = "Calle Torero 14"
domain.Actor::Photo: java.lang.String = "http://www.photocum.es"
domain.Actor::suspicious: boolean = false
domain.Actor::userAccount: security.UserAccount = security.UserAccount{id=1121,
version=0}
domain.Actor::boxes: java.util.Collection = []
domain.Actor::socialProfiles: java.util.Collection = []
domain.HandyWorker::make: java.lang.String = "Make 2"
```

```
domain.HandyWorker::score: double = 0.5
domain.HandyWorker::tutorials: java.util.Collection = []
domain.HandyWorker::curriculum: domain.Curriculum = null
domain.HandyWorker::finder: domain.Finder = domain.Finder{id=1164, version=0}
domain.HandyWorker::applications: java.util.Collection =
[domain.Application{id=1221, version=0}]
```