

Trabajo formativo

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Requerimiento 1: “Listar las últimas N ofertas de trabajo según su país y nivel de experticia”

Análisis complejidad temporal:

Pasos	Complejidad
Filtro por nivel de experticia y país	$O(n)$
Ordenar la lista filtrada con Shell sort	Peor caso $O(n^{3/2})$ Caso promedio $O(n^{1.25})$ Mejor caso $O(n \log(n))$
Crear sublista a retornar	$O(1)$
TOTAL	Peor caso $O(n^{3/2})$ Caso promedio $O(n^{1.25})$ Mejor caso $O(n \log(n))$

Toma de datos:

- Small: 41,55 ms

```
===== Req No. 1 Inputs =====
Número de ofertas a listar: 6
Código del país: ES
Nivel de experticia: mid

===== Req No. 1 Results =====
Tiempo de ejecución del requerimiento: 41.55510000000504 [ms]
El total de ofertas ofrecidas por la empresa y ciudad es: 45
```

published_at	title	company_name	experience_level	country_code	city	company_size	w
2023-09-01T07:00:21.710000Z	Project Manager (Digital/CRM projects)	Compuco	mid	ES	Madryt	Undefined	r
2023-06-30T12:00:15.718000Z	Python Engineer	SEEKR	mid	ES	Barcelona	Undefined	r
2023-06-30T12:00:15.718000Z	Python Engineer	SEEKR	mid	ES	Walencia	Undefined	r
2023-06-30T12:00:15.718000Z	Python Engineer	SEEKR	mid	ES	Madryt	Undefined	r
2023-06-01T09:00:16.762000Z	DevOps Engineer (Kubernetes)	Corva	mid	ES	Madryt	250	r
2023-03-01T13:00:12.661000Z	Technical Support Coordinator	Metricworks	mid	ES	Madryt	Undefined	r

- Medium: 69,29 ms

```
===== Req No. 1 Inputs =====
Número de ofertas a listar: 6
Código del país: ES
Nivel de experticia: mid

===== Req No. 1 Results =====
Tiempo de ejecución del requerimiento: 69.2948000000033 [ms]
El total de ofertas ofrecidas por la empresa y ciudad es: 74
```

published_at	title	company_name	experience_level	country_code	city	company_size	workplace_type
2023-08-29T07:00:23.176000Z	Python Engineer	SEEKR	mid	ES	Valencia	Undefined	remote
2023-08-29T07:00:23.176000Z	Python Engineer	SEEKR	mid	ES	Madrid	Undefined	remote
2023-06-30T12:00:15.718000Z	Python Engineer	SEEKR	mid	ES	Barcelona	Undefined	remote
2023-06-30T12:00:15.718000Z	Python Engineer	SEEKR	mid	ES	Valencia	Undefined	remote
2023-06-30T12:00:15.718000Z	Python Engineer	SEEKR	mid	ES	Madrid	Undefined	remote
2023-06-28T09:00:13.549000Z	Tech Product Owner (Digital/CRM&Infra)	Compuco	mid	ES	Madrid	Undefined	remote

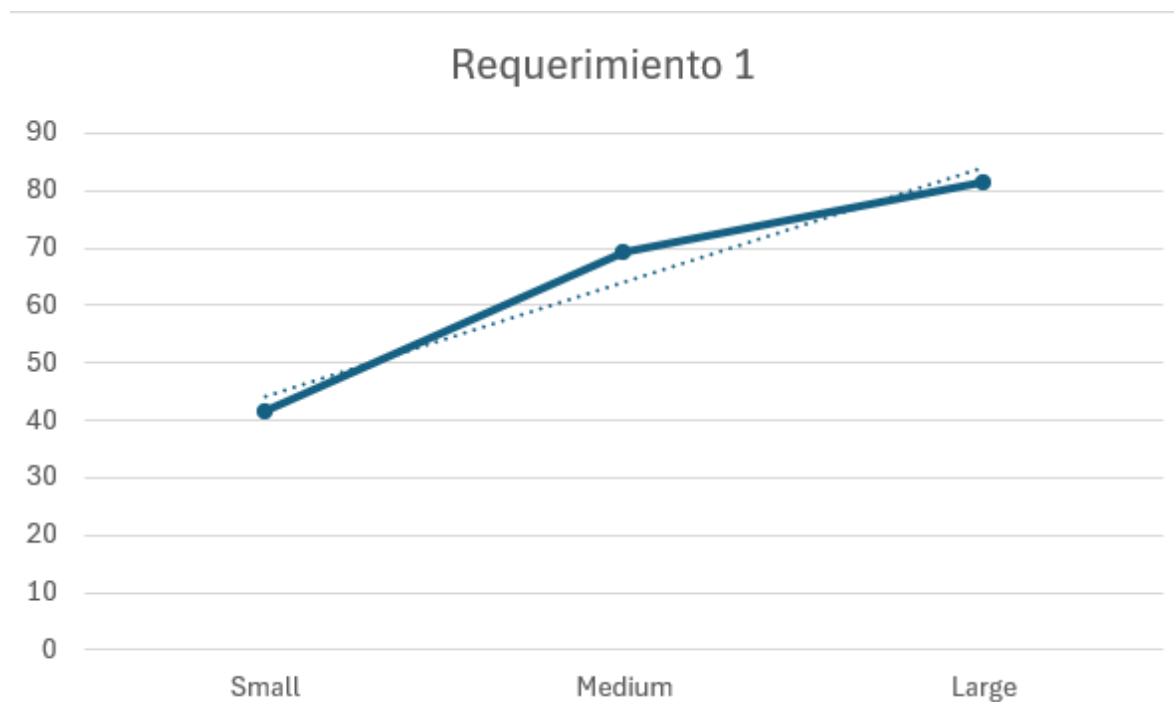
- Large: 81,38 ms

```
===== Req No. 1 Inputs =====
Número de ofertas a listar: 6
Código del país: ES
Nivel de experticia: mid

===== Req No. 1 Results =====
Tiempo de ejecución del requerimiento: 81.3836999999985 [ms]
El total de ofertas ofrecidas por la empresa y ciudad es: 80
```

published_at	title	company_name	experience_level	country_code	city	company_size	workplace_type
2023-08-25T06:22:00.000000Z	Python Engineer	SEEKR	mid	ES	Valencia	Undefined	remote
2023-08-25T06:22:00.000000Z	Python Engineer	SEEKR	mid	ES	Madrid	Undefined	remote
2023-06-26T12:06:00.000000Z	Python Engineer	SEEKR	mid	ES	Valencia	Undefined	remote
2023-06-26T12:06:00.000000Z	Python Engineer	SEEKR	mid	ES	Barcelona	Undefined	remote
2023-06-26T12:06:00.000000Z	Python Engineer	SEEKR	mid	ES	Madrid	Undefined	remote
2023-06-23T08:44:00.000000Z	Tech Product Owner (Digital/CRM&Infra)	Compuco	mid	ES	Madrid	Undefined	remote

Gráfica:



Requerimiento 2: “Consultar las ofertas que publicó una empresa durante un periodo específico de tiempo”

Análisis complejidad temporal:

Pasos	Complejidad
Filtro por fecha y nombre de país	$O(n)$
Ordenar la lista filtrada con Shell sort	Peor caso $O(n^{3/2})$ Caso promedio $O(n^{1.25})$ Mejor caso $O(n \log(n))$
Crear sublista a retornar	$O(1)$
TOTAL	Peor caso $O(n^{3/2})$ Caso promedio $O(n^{1.25})$ Mejor caso $O(n \log(n))$

Toma de datos:

- Small: 423,99 ms

```
===== Req No. 2 Results =====
Tiempo de ejecución del requerimiento: 423.9862999998957 [ms]
Número total de ofertas: 39
Número total de ofertas con experticia junior: 0
Número total de ofertas con experticia mid: 10
Número total de ofertas con experticia senior: 29
```

published_at	title	experience_level	city	country_code	company_size	workplace_type	open_to_hire_ukrainians
2023-06-01T09:00:16.762000Z	DevOps Engineer (Kubernetes)	mid	Hamburg	DE	250	remote	True
2023-06-01T09:00:16.762000Z	DevOps Engineer (Kubernetes)	mid	Madryt	ES	250	remote	True
2023-06-01T09:00:16.762000Z	DevOps Engineer (Kubernetes)	mid	Krakow	PL	250	remote	True
2022-08-01T12:00:13.655000Z	Senior Frontend Developer	senior	Bukareszt	RO	250	remote	True
2022-08-01T12:00:13.655000Z	Senior Frontend Developer	senior	Kijow	UA	250	remote	True
2022-08-01T11:00:14.295000Z	Senior Frontend Developer	senior	Houston	US	250	remote	True

- Medium: 669,44 ms

```
===== Req No. 2 Inputs =====
Nombr de la empresa: Corva
Fecha inicial: 2022-04-10
Fecha final: 2023-11-20

===== Req No. 2 Results =====
Tiempo de ejecución del requerimiento: 669.4404999999679 [ms]
Número total de ofertas: 39
Número total de ofertas con experticia junior: 0
Número total de ofertas con experticia mid: 9
Número total de ofertas con experticia senior: 30
```

published_at	title	experience_level	city	country_code	company_size	workplace_type	open_to_hire_ukrainians
2023-05-01T13:00:11.807000Z	Senior Python Developer (R&D)	senior	Wieden	AT	250	remote	True
2023-05-01T13:00:11.807000Z	Senior Python Developer (R&D)	senior	Berlin	DE	250	remote	True
2023-05-01T13:00:11.807000Z	Senior Python Developer (R&D)	senior	Hamburg	DE	250	remote	True
2022-07-07T12:01:00.000000Z	Senior Frontend Developer	senior	Krakow	PL	250	remote	True
2022-07-07T12:01:00.000000Z	Senior Frontend Developer	senior	Warszawa	PL	250	remote	True

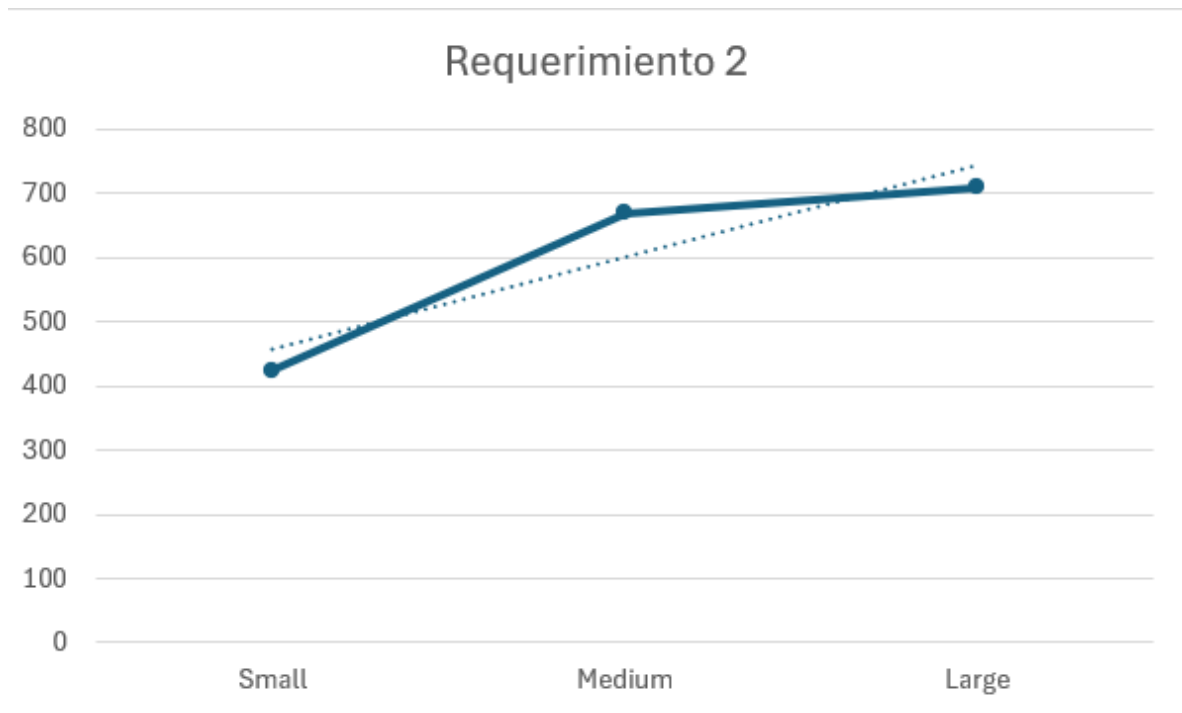
- Large: 709,93 ms

```
===== Req No. 2 Inputs =====
Nombre de la empresa: Corva
Fecha inicial: 2022-04-10
Fecha final: 2023-11-20

===== Req No. 2 Results =====
Tiempo de ejecución del requerimiento: 709.93970000000026 [ms]
Número total de ofertas: 39
Número total de ofertas con experticia junior: 0
Número total de ofertas con experticia mid: 0
Número total de ofertas con experticia senior: 39

-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
published_at | title | experience_level | city | country_code | company_size | workplace_type | open_to_hire_ukrainians |
-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
2023-04-21T13:11:00.000000Z | Senior Python Developer (R&D) | senior | Wieden | AT | 250 | remote | True
-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
2023-04-21T13:11:00.000000Z | Senior Python Developer (R&D) | senior | Hamburg | DE | 250 | remote | True
-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
2023-04-21T13:11:00.000000Z | Senior Python Developer (R&D) | senior | Berlin | DE | 250 | remote | True
-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
2022-07-07T12:01:00.000000Z | Senior Frontend Developer | senior | Warszawa | PL | 250 | remote | True
-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
2022-07-07T12:01:00.000000Z | Senior Frontend Developer | senior | Krakow | PL | 250 | remote | True
-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
2022-07-07T10:59:00.000000Z | Senior Frontend Developer | senior | Houston | US | 250 | remote | True
```

Gráfica:



Requerimiento 3: “Listar las últimas N ofertas de trabajo por empresa y ciudad”

Análisis complejidad temporal:

Pasos	Complejidad
Filtro por nombre de ciudad y empresa	$O(n)$
Ordenar la lista filtrada con Shell sort	Peor caso $O(n^{3/2})$ Caso promedio $O(n^{1.25})$ Mejor caso $O(n \log(n))$
Crear sublista a retornar	$O(1)$
TOTAL	Peor caso $O(n^{3/2})$ Caso promedio $O(n^{1.25})$ Mejor caso $O(n \log(n))$

Toma de datos:

- Small: 37,01 ms

```
===== Req No. 3 Inputs =====
Número de ofertas a listar: 6
Nombre completo de la empresa: Corva
Ciudad de la oferta: Madryt

===== Req No. 3 Results =====
Tiempo de ejecución del requerimiento: 37.01459999999497 [ms]
El total de ofertas ofrecidas por la empresa y ciudad es: 2
+-----+-----+-----+-----+-----+-----+-----+-----+
| published_at | country_code | city | company_name | title | experience_level | remote_interview | workplace |
+-----+-----+-----+-----+-----+-----+-----+-----+
| 2023-06-01T09:00:16.762000Z | ES | Madryt | Corva | DevOps Engineer (Kubernetes) | mid | True | remote |
+-----+-----+-----+-----+-----+-----+-----+-----+
| 2023-05-01T13:00:11.807000Z | ES | Madryt | Corva | Senior Python Developer (R&D) | senior | True | remote |
+-----+-----+-----+-----+-----+-----+-----+-----+
```

- Medium: 58,97 ms

```
===== Req No. 3 Inputs =====
Número de ofertas a listar: 6
Nombre completo de la empresa: Corva
Ciudad de la oferta: Madryt

===== Req No. 3 Results =====
Tiempo de ejecución del requerimiento: 58.973499999996368 [ms]
El total de ofertas ofrecidas por la empresa y ciudad es: 2
+-----+-----+-----+-----+-----+-----+-----+-----+
| published_at | country_code | city | company_name | title | experience_level | remote_interview | workplace_type |
+-----+-----+-----+-----+-----+-----+-----+-----+
| 2023-05-01T13:00:11.807000Z | ES | Madryt | Corva | Senior Python Developer (R&D) | senior | True | remote |
+-----+-----+-----+-----+-----+-----+-----+-----+
| 2023-03-28T11:00:17.236000Z | ES | Madryt | Corva | DevOps Engineer (Kubernetes) | mid | True | remote |
+-----+-----+-----+-----+-----+-----+-----+-----+
```

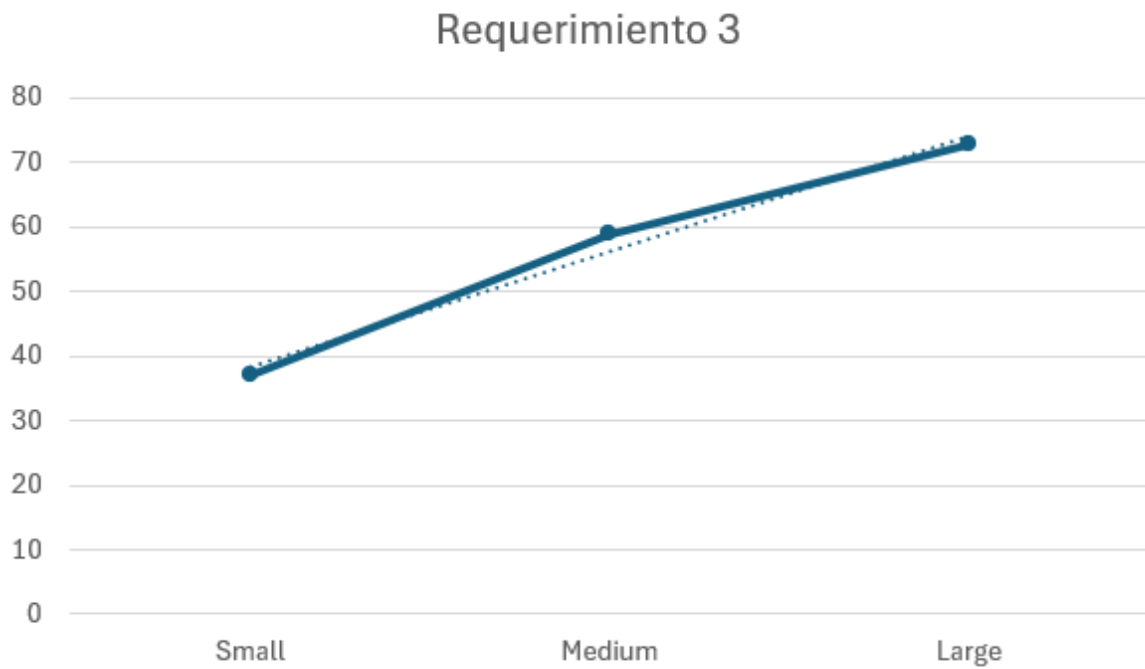
- Large: 72, 82 ms

```
===== Req No. 3 Inputs =====
Número de ofertas a listar: 6
Nombre completo de la empresa: Corva
Ciudad de la oferta: Madryt

===== Req No. 3 Results =====
Tiempo de ejecución del requerimiento: 72.8275000001397 [ms]
El total de ofertas ofrecidas por la empresa y ciudad es: 2

+-----+-----+-----+-----+-----+-----+-----+-----+
| published_at | country_code | city | company_name | title | experience_level | remote_interview | workplace_type |
+-----+-----+-----+-----+-----+-----+-----+-----+
| 2023-04-21T13:11:00.000000Z | ES | Madryt | Corva | Senior Python Developer (R&D) | senior | True | remote |
+-----+-----+-----+-----+-----+-----+-----+-----+
| 2023-03-08T10:26:00.000000Z | ES | Madryt | Corva | DevOps Engineer (Kubernetes) | senior | True | remote |
+-----+-----+-----+-----+-----+-----+-----+-----+
```

Gráfica:



Requerimiento 4: “Consultar las ofertas que se publicaron en un país durante un periodo de tiempo”

Análisis complejidad temporal:

Pasos	Complejidad
Filtro por fechas y país	$O(n)$
Determinar ciudades con mayor y menor cantidad de ofertas	$O(n)$
Ordenar la lista filtrada con Shell sort	Peor caso $O(n^{3/2})$ Caso promedio $O(n^{1.25})$ Mejor caso $O(n \log(n))$
Crear sublista a retornar	$O(1)$
TOTAL	Peor caso $O(n^{3/2})$ Caso promedio $O(n^{1.25})$ Mejor caso $O(n \log(n))$

Toma de datos:

- Small: 423,97 ms

```
===== Req No. 4 Inputs =====
País de consulta: ES
Fecha inicial: 2022-04-10
Fecha final: 2023-11-20

===== Req No. 4 Results =====
Tiempo de ejecución del requerimiento: 423.9708000001006 [ms]
El total de ofertas ofrecidas en el país y el periodo establecido es: 145
El total de empresas que publicaron al menos una oferta en el país es: 54
Número de ciudades del país donde se publicaron ofertas: 12
Ciudad con el mayor número de ofertas y su conteo:
{'Mdryt': 60}
Ciudad con el menor número de ofertas y su conteo:
{'Banyoles': 1}

-----+-----+-----+-----+-----+-----+-----+
| published_at | title | experience_level | company_name | city | workplace_type | remote_work |
open_to_hire_ukrainians |
-----+-----+-----+-----+-----+-----+-----+
| 2023-09-01T14:49:00.000000Z | AI Engineer/Data Scientist | senior | lemon.io | Barcelona | remote | True |
True |
-----+-----+-----+-----+-----+-----+-----+
| 2023-09-01T11:00:12.475000Z | Senior DevOps Engineer | senior | Compuco | Madryt | remote | True |
False |
-----+-----+-----+-----+-----+-----+-----+
| 2023-09-01T07:00:21.710000Z | Project Manager (Digital/CRM projects) | mid | Compuco | Madryt | remote | True |
false |
-----+-----+-----+-----+-----+-----+-----+
| 2022-04-14T13:00:24.200000Z | Frontend Developer (React) | senior | Lodgify | Barcelona | partly_remote | False |
False |
-----+-----+-----+-----+-----+-----+-----+
| 2022-04-12T10:00:25.010000Z | Mid/Senior Fullstack Javascript | mid | Emjoy | Barcelona | remote | True |
False |
-----+-----+-----+-----+-----+-----+-----+
| 2022-04-11T16:00:15.806000Z | C# Backend Developer | mid | Lodgify | Barcelona | partly_remote | False |
False |
```


- Medium: 687,57 ms

```
Pais de consulta: ES
Fecha inicial: 2022-04-10
Fecha final: 2023-11-20

===== Req No. 4 Results =====
Tiempo de ejecución del requerimiento: 687.572800000236 [ms]
El total de ofertas ofrecidas en el país y el periodo establecido es: 232
El total de empresas que publicaron al menos una oferta en el país es: 81
Número de ciudades del país donde se publicaron ofertas: 14
Ciudad con el mayor número de ofertas y su conteo:
{'Madrty': 104}
Ciudad con el menor número de ofertas y su conteo:
{'Hiszpania': 1}
```

published_at nians	title	experience_level	company_name	city	workplace_type	remote_work	open_to_hire_ukrai
2023-09-01T14:49:00.000000Z	AI Engineer/Data Scientist	senior	lemon.io	Barcelona	remote	True	True
2023-08-29T07:00:23.176000Z	Python Engineer	mid	SEEKR	Walencja	remote	True	False
2023-08-29T07:00:23.176000Z	Python Engineer	mid	SEEKR	Madrty	remote	True	False
2022-04-14T13:00:24.200000Z	Frontend Developer (React)	senior	Lodgify	Barcelona	partly_remote	False	False
2022-04-12T10:00:25.010000Z	Mid/Senior Fullstack Javascript	mid	Emjoy	Barcelona	remote	True	False
2022-04-11T16:00:15.806000Z	C# Backend Developer	mid	Lodgify	Barcelona	partly_remote	False	False

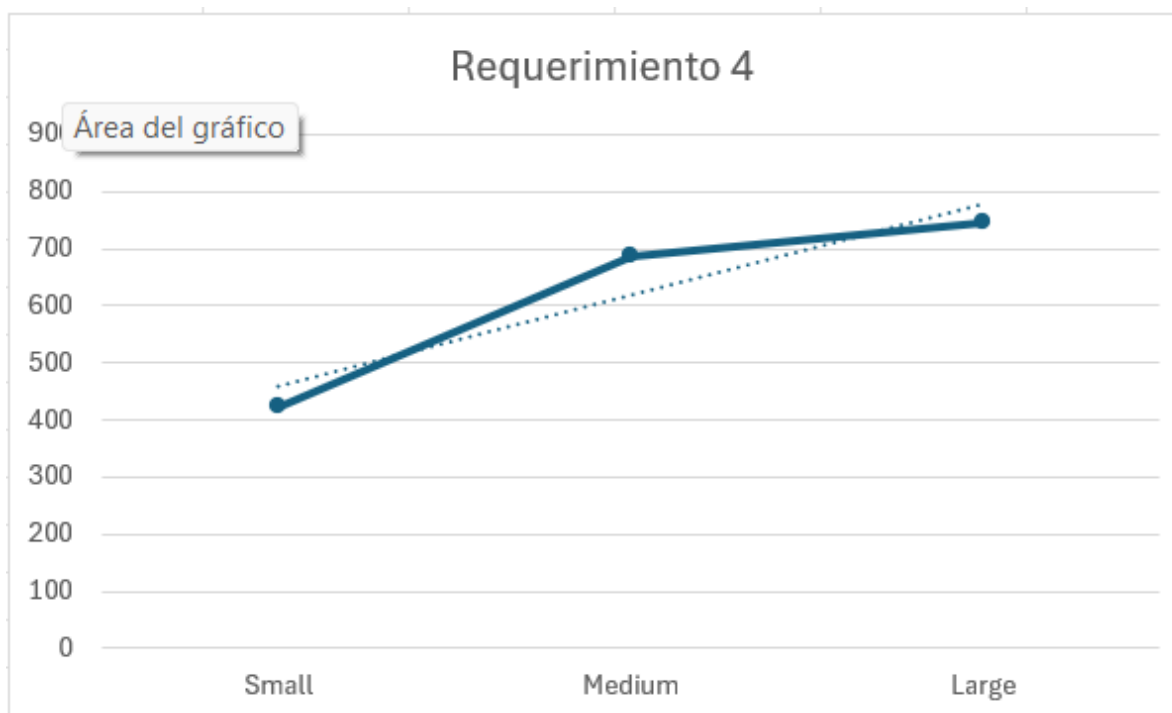
- Large: 745,31 ms

```
===== Req No. 4 Inputs =====
Pais de consulta: ES
Fecha inicial: 2022-04-10
Fecha final: 2023-11-20

===== Req No. 4 Results =====
Tiempo de ejecución del requerimiento: 745.3135000000184 [ms]
El total de ofertas ofrecidas en el país y el periodo establecido es: 249
El total de empresas que publicaron al menos una oferta en el país es: 84
Número de ciudades del país donde se publicaron ofertas: 14
Ciudad con el mayor número de ofertas y su conteo:
{'Madrty': 114}
Ciudad con el menor número de ofertas y su conteo:
{'Hiszpania': 1}
```

published_at ukrainians	title	experience_level	company_name	city	workplace_type	remote_work	open_to_hire
2023-09-22T11:02:00.000000Z	Senior Full Stack Developer	senior	Nordhealth	Madrty	remote	True	False
2023-09-08T14:04:00.000000Z	Senior React & React Native Developer	senior	lemon.io	Madrty	remote	True	True
2023-09-08T14:04:00.000000Z	Senior React & React Native Developer	senior	lemon.io	Barcelona	remote	True	True
2022-04-14T13:00:24.200000Z	Frontend Developer (React)	senior	Lodgify	Barcelona	partly_remote	False	False
2022-04-12T10:00:25.010000Z	Mid/Senior Fullstack Javascript	mid	Emjoy	Barcelona	remote	True	False
2022-04-11T16:00:15.806000Z	C# Backend Developer	mid	Lodgify	Barcelona	partly_remote	False	False

Gráfica:



Requerimiento 5: “Consultar las ofertas que se publicaron en una ciudad durante un periodo de tiempo”

Análisis complejidad temporal:

Pasos	Complejidad
Filtro por fechas y ciudad	$O(n)$
Determinar compañías con mayor y menor cantidad de ofertas	$O(n)$
Ordenar la lista filtrada con Shell sort	Peor caso $O(n^{3/2})$ Caso promedio $O(n^{1.25})$ Mejor caso $O(n \log(n))$
Crear sublista a retornar	$O(1)$
TOTAL	Peor caso $O(n^{3/2})$ Caso promedio $O(n^{1.25})$ Mejor caso $O(n \log(n))$

Toma de datos:

- Small: 418,18 ms

```
===== Req No. 5 Inputs =====
Ciudad de consulta: Madryt
Fecha inicial: 2022-04-10
Fecha final: 2023-11-20

===== Req No. 5 Results =====
Tiempo de ejecución del requerimiento: 418.18539999995846 [ms]
El total de ofertas ofrecidas en la ciudad y el periodo establecido es: 65
El total de empresas que publicaron al menos una oferta en el país es: 26
Empresa con el mayor número de ofertas y su conteo:
{'lemon.io': 17}
Empresa con el menor número de ofertas y su conteo:
{'MetricWorks': 1}

+-----+-----+-----+-----+-----+-----+
| published_at | title | experience_level | company_name | workplace_type | company_size |
+-----+-----+-----+-----+-----+-----+
| 2023-09-01T11:00:12.475000Z | Senior DevOps Engineer | senior | Compuco | remote | Undefined |
+-----+-----+-----+-----+-----+-----+
| 2023-09-01T07:00:21.710000Z | Project Manager (Digital/CRM projects) | mid | Compuco | remote | Undefined |
+-----+-----+-----+-----+-----+-----+
| 2023-07-01T13:00:11.866000Z | Senior Frontend Developer | senior | Nordhealth | remote | Undefined |
+-----+-----+-----+-----+-----+-----+
| 2022-05-30T15:00:15.783000Z | Regular Ruby on Rails Developer | mid | Jobandtalent | remote | 2000 |
+-----+-----+-----+-----+-----+-----+
| 2022-05-29T11:00:18.071000Z | Cloud Engineer | mid | REDD AI | remote | Undefined |
+-----+-----+-----+-----+-----+-----+
| 2022-05-01T10:00:13.676000Z | Senior Ruby on Rails Developer | senior | Jobandtalent | remote | 4000 |
+-----+-----+-----+-----+-----+-----+
```

- Medium: 694,57 ms

```
===== Req No. 5 Inputs =====
Ciudad de consulta: Madryt
Fecha inicial: 2022-04-10
Fecha final: 2023-11-20

===== Req No. 5 Results =====
Tiempo de ejecución del requerimiento: 694.5734999999404 [ms]
El total de ofertas ofrecidas en la ciudad y el periodo establecido es: 108
El total de empresas que publicaron al menos una oferta en el país es: 46
Empresa con el mayor número de ofertas y su conteo:
{'lemon.io': 20}
Empresa con el menor número de ofertas y su conteo:
{'11Wizards': 1}

+-----+-----+-----+-----+-----+-----+
| published_at | title | experience_level | company_name | workplace_type | company_size |
+-----+-----+-----+-----+-----+-----+
| 2023-08-29T07:00:23.176000Z | Python Engineer | mid | SEEKR | remote | Undefined |
+-----+-----+-----+-----+-----+-----+
| 2023-07-28T14:00:13.344000Z | Senior DevOps Engineer | senior | Compuco | remote | Undefined |
+-----+-----+-----+-----+-----+-----+
| 2023-07-01T13:00:11.866000Z | Senior Frontend Developer | senior | Nordhealth | remote | Undefined |
+-----+-----+-----+-----+-----+-----+
| 2022-05-01T10:00:13.676000Z | Senior Ruby on Rails Developer | senior | Jobandtalent | remote | 4000 |
+-----+-----+-----+-----+-----+-----+
| 2022-04-29T10:22:00.000000Z | Senior Backend Engineer (Golang/go) | senior | XIM INC | remote | Undefined |
+-----+-----+-----+-----+-----+-----+
| 2022-04-27T10:00:12.966000Z | Remote Blockchain Senior Developer | senior | Espeo Software | remote | Undefined |
+-----+-----+-----+-----+-----+-----+
```

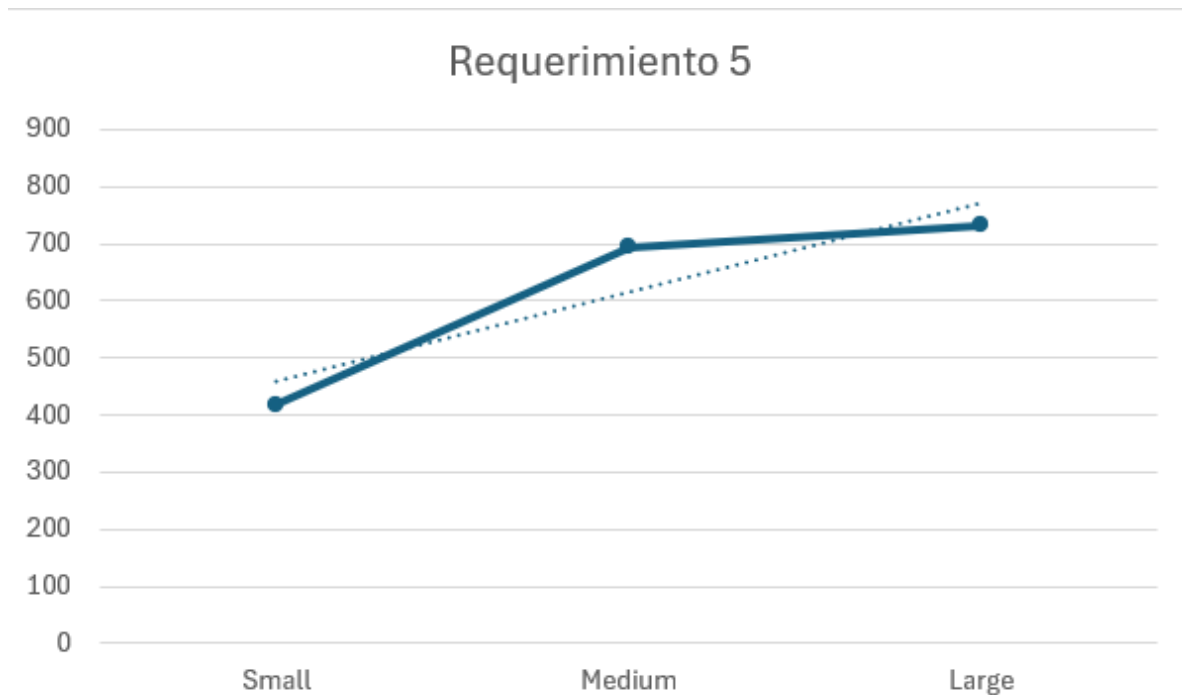
- Large: 732,81 ms

```
===== Req No. 5 Inputs =====
Ciudad de consulta: Madrid
Fecha inicial: 2022-04-10
Fecha final: 2023-11-20

===== Req No. 5 Results =====
Tiempo de ejecución del requerimiento: 732.8115999999864 [ms]
El total de ofertas ofrecidas en la ciudad y el periodo establecido es: 117
El total de empresas que publicaron al menos una oferta en el país es: 48
Empresa con el mayor número de ofertas y su conteo:
{'lemon.io': 19}
Empresa con el menor número de ofertas y su conteo:
{'11wizards': 1}
```

published_at	title	experience_level	company_name	workplace_type	company_size
2023-09-22T11:02:00.000000Z	Senior Full Stack Developer	senior	Nordhealth	remote	400
2023-09-08T14:04:00.000000Z	Senior React & React Native Developer	senior	lemon.io	remote	Undefined
2023-08-25T06:22:00.000000Z	Python Engineer	mid	SEEKR	remote	Undefined
2022-04-29T10:22:00.000000Z	Senior Backend Engineer (golang/go)	senior	XIM INC	remote	Undefined
2022-04-26T10:15:00.000000Z	Senior Ruby on Rails Developer	senior	Jobandtalent	remote	4000
2022-04-15T09:58:00.000000Z	Remote Blockchain Senior Developer	senior	Espeo Software	remote	Undefined

Gráfica:



Requerimiento 6: “Clasificar las N ciudades con mayor número de ofertas de trabajo por experticia entre un rango de fechas”

Análisis complejidad temporal:

Pasos	Complejidad
Filtro por fechas, nivel de experiencia y país (depende del usuario)	$O(n)$
Ordenar la lista filtrada por id con Shell sort	Peor caso $O(n^{3/2})$ Caso promedio $O(n^{1.25})$ Mejor caso $O(n \log(n))$
Recorrer lista de tipos + búsqueda binaria para completar los datos requeridos	$O(m \log(n))$
Determinar ciudades con mayor y menor cantidad de ofertas	$O(n)$
Recorrer la lista obtenida para determinar datos necesarios	$O(n)$
Último recorrido a la lista para construir la estructura a retornar	$O(n)$
Ordenar la lista final con Shell sort	Peor caso $O(n^{3/2})$ Caso promedio $O(n^{1.25})$ Mejor caso $O(n \log(n))$
Crear sublista a retornar	$O(1)$
TOTAL	Peor caso $O(n^{3/2})$ Caso promedio $O(n^{1.25})$ Mejor caso $O(n \log(n))$

Toma de datos:

- Small: 845,83 ms

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===== Req No. 6 Inputs =====
Número de ciudades de consulta: 6
Nivel de experticia de las ofertas de interés: mid
País de consulta: ES
Fecha inicial: 2022-04-10
Fecha final: 2023-11-20

===== Req No. 6 Results =====
Tiempo de ejecución del requerimiento: 845.8342999999877 [ms]
Total de ciudades que cumplen con las condiciones de la consulta: 7
Total de empresas que cumplen con las condiciones de la consulta: 25
Total de ofertas publicadas que cumplen con las condiciones de la consulta: 45
Promedio del salario ofertado de todas las ofertas que cumplen con las condiciones de la consulta: 6632.5
Nombre de la ciudad con mayor cantidad de ofertas de empleos y su conteo:
{'Madryt': 21}
Nombre de la ciudad con menor cantidad de ofertas de empleos y su conteo:
{'Hiszpania': 1}

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city	cant_offers	prom_salaries	cant_empresas	max_company	best_offer	worst_offer																																																																																																
Madrid	21	6796.21	13	['Lemon.io': 6]	<table><tr><th>published_at</th><th>title</th><th>country_code</th><th>workplace_type</th><th>salary_from</th><th>salary_to</th></tr><tr><td>2022-0</td><td>Regula</td><td>ES</td><td>remote</td><td>25000</td><td>34000</td></tr><tr><td>5-3071</td><td>r-Ruby</td><td></td><td></td><td></td><td></td></tr><tr><td>5-0011</td><td>on</td><td></td><td></td><td></td><td></td></tr><tr><td>5-7330</td><td>Mailis</td><td></td><td></td><td></td><td></td></tr><tr><td>002</td><td>Develo</td><td></td><td></td><td></td><td></td></tr><tr><td></td><td>per</td><td></td><td></td><td></td><td></td></tr></table>	published_at	title	country_code	workplace_type	salary_from	salary_to	2022-0	Regula	ES	remote	25000	34000	5-3071	r-Ruby					5-0011	on					5-7330	Mailis					002	Develo						per					<table><tr><th>published_at</th><th>title</th><th>country_code</th><th>workplace_type</th><th>salary_from</th><th>salary_to</th></tr><tr><td>2022-1</td><td>Techni</td><td>ES</td><td>remote</td><td>2500</td><td>3000</td></tr><tr><td>0-3110</td><td>cal.Pr</td><td></td><td></td><td></td><td></td></tr><tr><td>8-0011</td><td>odact</td><td></td><td></td><td></td><td></td></tr><tr><td>4-7600</td><td>Genar</td><td></td><td></td><td></td><td></td></tr><tr><td>002</td><td>(Digit</td><td></td><td></td><td></td><td></td></tr><tr><td></td><td>al.Pro</td><td></td><td></td><td></td><td></td></tr><tr><td></td><td>ducts)</td><td></td><td></td><td></td><td></td></tr></table>	published_at	title	country_code	workplace_type	salary_from	salary_to	2022-1	Techni	ES	remote	2500	3000	0-3110	cal.Pr					8-0011	odact					4-7600	Genar					002	(Digit						al.Pro						ducts)										
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- Medium: 1486,24 ms

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===== Req No. 6 Inputs =====
Número de ciudades de consulta: 6
Nivel de experticia de las ofertas de interés: mid
País de consulta: ES
Fecha inicial: 2022-04-10
Fecha final: 2023-11-20

===== Req No. 6 Results =====
Tiempo de ejecución del requerimiento: 1486.248499999987 [ms]
Total de ciudades que cumplen con las condiciones de la consulta: 7
Total de empresas que cumplen con las condiciones de la consulta: 33
Total de ofertas publicadas que cumplen con las condiciones de la consulta: 72
Promedio del salario ofertado de todas las ofertas que cumplen con las condiciones de la consulta: 7513.98
Nombre de la ciudad con mayor cantidad de ofertas de empleos y su conteo:
{'Madrid': 37}
Nombre de la ciudad con menor cantidad de ofertas de empleos y su conteo:
{'Hiszpania': 1}

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city	cant_offers	prom_salaries	cant_empresas	max_company	best_offer	worst_offer																																																																																																
Madrid	40	8013.82	21	["Lemon.io": 9]	<table><thead><tr><th>published_at</th><th>title</th><th>country_code</th><th>workplace_type</th><th>salary_from</th><th>salary_to</th></tr></thead><tbody><tr><td>2022-0</td><td>Lead F</td><td>ES</td><td>remote</td><td>30000</td><td>40000</td></tr><tr><td>0-0011</td><td>ux/UI</td><td></td><td></td><td></td><td></td></tr><tr><td>1:58:0</td><td>ml Co</td><td></td><td></td><td></td><td></td></tr><tr><td>0.0000</td><td>multia</td><td></td><td></td><td></td><td></td></tr><tr><td>002</td><td>nt</td><td></td><td></td><td></td><td></td></tr></tbody></table>	published_at	title	country_code	workplace_type	salary_from	salary_to	2022-0	Lead F	ES	remote	30000	40000	0-0011	ux/UI					1:58:0	ml Co					0.0000	multia					002	nt					<table><thead><tr><th>published_at</th><th>title</th><th>country_code</th><th>workplace_type</th><th>salary_from</th><th>salary_to</th></tr></thead><tbody><tr><td>2022-0</td><td>PHP En</td><td>ES</td><td>remote</td><td>2003</td><td>2916</td></tr><tr><td>2-2071</td><td>gineer</td><td></td><td></td><td></td><td></td></tr><tr><td>3:00:1</td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>0.7400</td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>002</td><td></td><td></td><td></td><td></td><td></td></tr></tbody></table>	published_at	title	country_code	workplace_type	salary_from	salary_to	2022-0	PHP En	ES	remote	2003	2916	2-2071	gineer					3:00:1						0.7400						002																													
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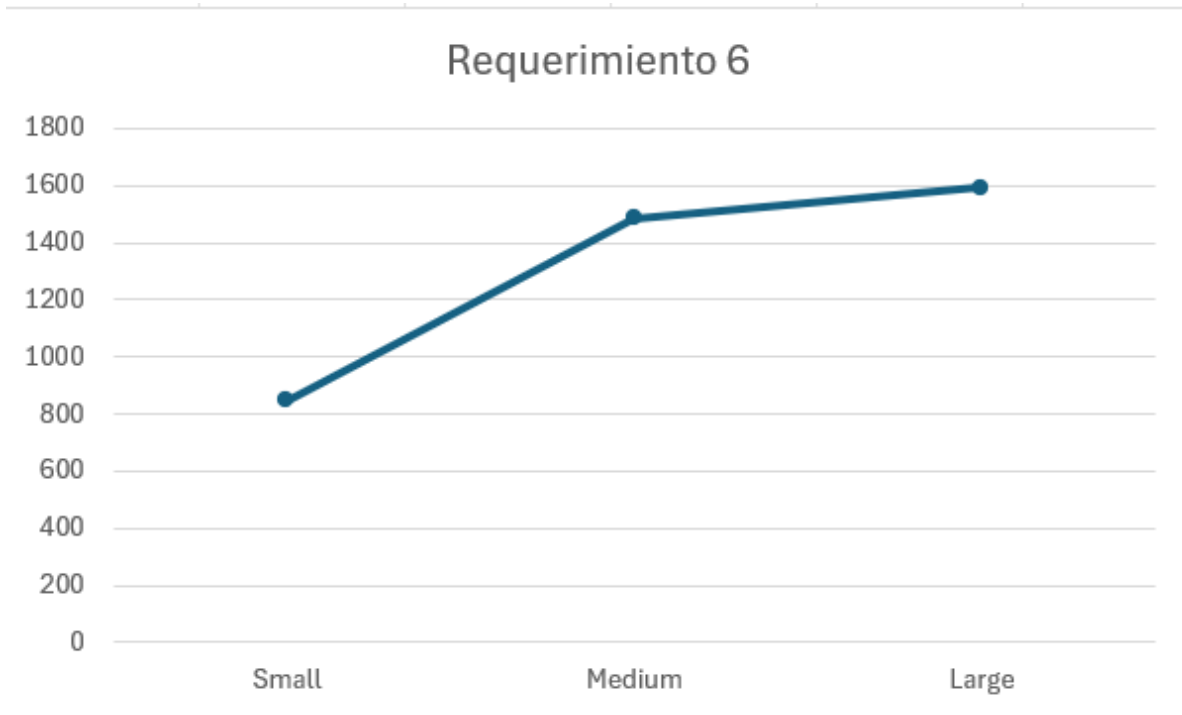
===== Req No. 6 Inputs =====
Número de ciudades de consulta: 6
Nivel de experticia de las ofertas de interés: mid
País de consulta: ES
Fecha inicial: 2022-04-10
Fecha final: 2023-11-20

===== Req No. 6 Results =====
Tiempo de ejecución del requerimiento: 1592.62199999999157 [ms]
Total de ciudades que cumplen con las condiciones de la consulta: 8
Total de empresas que cumplen con las condiciones de la consulta: 35
Total de ofertas publicadas que cumplen con las condiciones de la consulta: 78
Promedio del salario ofertado de todas las ofertas que cumplen con las condiciones de la consulta: 8032.42
Nombre de la ciudad con mayor cantidad de ofertas de empleos y su conteo:
{'Madrid': 41}
Nombre de la ciudad con menor cantidad de ofertas de empleos y su conteo:
{'Hiszpania': 1}

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Gráfica:



Análisis complejidad temporal:

Toma de datos:

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===== Req No. 7 Results =====
Tiempo de ejecución del requerimiento: 7254.812899947166 [ms]
El total de ofertas de empleo: 4556
Total de ciudades que cumplen con las condiciones de la consulta: 203
Nombre del país con mayor cantidad de ofertas y su conteo
{'PL': 4475}
Nombre de la ciudad con mayor cantidad de ofertas y su conteo
{'Warszawa': 872}
```

[illegible]

- Medium: 11333,01 ms

```
===== Req No. 7 Results =====
Tiempo de ejecución del requerimiento: 11333.011299967766 [ms]
El total de ofertas de empleo: 5549
Total de ciudades que cumplen con las condiciones de la consulta: 225
Nombre del país con mayor cantidad de ofertas y su conteo
{'PL': 5471}
Nombre de la ciudad con mayor cantidad de ofertas y su conteo
{'Warszawa': 750}
```

[illegible]

- Large: 4953,75 ms

```
===== Req No. 7 Results =====
Tiempo de ejecución del requerimiento: 4953.752600073814 [ms]
El total de ofertas de empleo: 1165
Total de ciudades que cumplen con las condiciones de la consulta: 92
Nombre del país con mayor cantidad de ofertas y su conteo
{'PL': 1153}
Nombre de la ciudad con mayor cantidad de ofertas y su conteo
{'Warszawa': 165}
```

[illegible]

Gráfica:

