

Questions	Query in text	Result	Conclusion																																																																																																
What are the fields with the largest salary range (minimum and maximum)?	SELECT jn.industry_name , round(AVG(1 - p.min_salary / p.max_salary), 2) AS avg_salary_diff FROM postings p INNER JOIN (SELECT j.job_id , i.industry_name FROM job_industries j INNER JOIN industries i ON i.industry_id = j.industry_id) jn ON jn.job_id = p.job_id WHERE p.min_salary IS NOT NULL GROUP BY jn.industry_name ORDER BY avg_salary_diff DESC LIMIT 10	<pre>SELECT jn.industry_name , round(AVG(1 - p.min_salary / p.max_salary), 2) AS avg_salary_diff FROM postings p INNER JOIN (SELECT j.job_id , i.industry_name FROM job_industries j INNER JOIN industries i ON i.industry_id = j.industry_id) jn ON jn.job_id = p.job_id WHERE p.min_salary IS NOT NULL GROUP BY jn.industry_name ORDER BY avg_salary_diff DESC LIMIT 10</pre> <table><thead><tr><th></th><th>industry_name</th><th>avg_salary_diff</th></tr></thead><tbody><tr><td>1</td><td>Real Estate Agents and Brokers</td><td>0.9</td></tr><tr><td>2</td><td>Communications Equipment Manufacturing</td><td>0.65</td></tr><tr><td>3</td><td>Animation and Post-production</td><td>0.53</td></tr><tr><td>4</td><td>Movies, Videos, and Sound</td><td>0.5</td></tr><tr><td>5</td><td>Blockchain Services</td><td>0.5</td></tr><tr><td>6</td><td>Securities and Commodity Exchanges</td><td>0.45</td></tr><tr><td>7</td><td>Solar Electric Power Generation</td><td>0.43</td></tr><tr><td>8</td><td>Wireless Services</td><td>0.42</td></tr><tr><td>9</td><td>Retail Recyclable Materials & Used Merchandise</td><td>0.41</td></tr><tr><td>10</td><td>Urban Transit Services</td><td>0.39</td></tr></tbody></table>		industry_name	avg_salary_diff	1	Real Estate Agents and Brokers	0.9	2	Communications Equipment Manufacturing	0.65	3	Animation and Post-production	0.53	4	Movies, Videos, and Sound	0.5	5	Blockchain Services	0.5	6	Securities and Commodity Exchanges	0.45	7	Solar Electric Power Generation	0.43	8	Wireless Services	0.42	9	Retail Recyclable Materials & Used Merchandise	0.41	10	Urban Transit Services	0.39	<p>For the analysis, the indicator avg_salary_diff was chosen.</p> <p>It is calculated as the average percentage deviation between the minimum and maximum salary. This indicates areas where there is instability in salary conditions, uncertainty, and a lack of clear standards.</p> <p>The largest salary range in the real estate sector can be explained by the specifics of commission-based payments. In communications and post-production, project-based work is typical. Blockchain, being a relatively new and dynamic field, is riskier, which explains the large fluctuations. The other fields in the list could be explained by the fact that the job descriptions are likely too broad and target a wide audience.</p> <p>Recommendations: Work on job postings in the top ten sectors to create clearer salary motivations and make job advertisements more targeted to specific audiences. This will help optimize the recruitment process and make it faster and more efficient.</p>																																																															
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Determine the specifics of payment in industries.	SELECT s.skill_name, count(js.job_id) AS total_vacancies, round(avg(p.normalized_salary), 0) AS avg_salary_by_year, round(100 * sum(CASE WHEN p.normalized_salary < 50000 THEN 1 ELSE 0 END) / count(js.job_id), 2) AS low_salary_share, round(100 * sum(CASE WHEN p.normalized_salary > 200000 THEN 1 ELSE 0 END) / count(js.job_id), 2) AS elit_salary_share FROM job_skills js LEFT JOIN skills s ON s.skill_abr = js.skill_abr LEFT JOIN postings p ON p.job_id = js.job_id WHERE p.normalized_salary IS NOT NULL GROUP BY s.skill_name ORDER BY total_vacancies DESC LIMIT 15	<pre>SELECT s.skill_name, count(js.job_id) AS total_vacancies, round(avg(p.normalized_salary), 0) AS avg_salary_by_year, round(100 * sum(CASE WHEN p.normalized_salary < 50000 THEN 1 ELSE 0 END) / count(js.job_id), 2) AS low_salary_share, round(100 * sum(CASE WHEN p.normalized_salary > 200000 THEN 1 ELSE 0 END) / count(js.job_id), 2) AS elit_salary_share FROM job_skills js LEFT JOIN skills s ON s.skill_abr = js.skill_abr LEFT JOIN postings p ON p.job_id = js.job_id WHERE p.normalized_salary IS NOT NULL GROUP BY s.skill_name ORDER BY total_vacancies DESC LIMIT 15</pre> <table><thead><tr><th></th><th>skill_name</th><th>total_vacancies</th><th>avg_salary_by_year</th><th>low_salary_share</th><th>elit_salary_share</th></tr></thead><tbody><tr><td>1</td><td>Information Technology</td><td>7,177</td><td>295,680</td><td>11.38</td><td>6.27</td></tr><tr><td>2</td><td>Sales</td><td>5,648</td><td>154,131</td><td>25.73</td><td>5.08</td></tr><tr><td>3</td><td>Management</td><td>5,489</td><td>86,804</td><td>39.64</td><td>2.31</td></tr><tr><td>4</td><td>Manufacturing</td><td>4,660</td><td>81,794</td><td>43.67</td><td>1.22</td></tr><tr><td>5</td><td>Engineering</td><td>3,778</td><td>316,112</td><td>5.88</td><td>7.91</td></tr><tr><td>6</td><td>Health Care Provider</td><td>3,777</td><td>262,934</td><td>23.88</td><td>6.62</td></tr><tr><td>7</td><td>Other</td><td>3,414</td><td>174,072</td><td>39.02</td><td>2.93</td></tr><tr><td>8</td><td>Business Development</td><td>3,385</td><td>129,153</td><td>24.37</td><td>5.55</td></tr><tr><td>9</td><td>Finance</td><td>2,936</td><td>225,272</td><td>12.36</td><td>5.65</td></tr><tr><td>10</td><td>Accounting/Auditing</td><td>2,306</td><td>251,182</td><td>10.88</td><td>3.73</td></tr><tr><td>11</td><td>Administrative</td><td>1,922</td><td>69,744</td><td>35.9</td><td>0.99</td></tr><tr><td>12</td><td>Marketing</td><td>1,644</td><td>164,988</td><td>19.46</td><td>7.24</td></tr><tr><td>13</td><td>Project Management</td><td>1,442</td><td>117,773</td><td>3.95</td><td>4.65</td></tr><tr><td>14</td><td>Analyst</td><td>1,265</td><td>101,863</td><td>11.3</td><td>4.82</td></tr><tr><td>15</td><td>Customer Service</td><td>1,164</td><td>60,834</td><td>49.4</td><td>0.77</td></tr></tbody></table>		skill_name	total_vacancies	avg_salary_by_year	low_salary_share	elit_salary_share	1	Information Technology	7,177	295,680	11.38	6.27	2	Sales	5,648	154,131	25.73	5.08	3	Management	5,489	86,804	39.64	2.31	4	Manufacturing	4,660	81,794	43.67	1.22	5	Engineering	3,778	316,112	5.88	7.91	6	Health Care Provider	3,777	262,934	23.88	6.62	7	Other	3,414	174,072	39.02	2.93	8	Business Development	3,385	129,153	24.37	5.55	9	Finance	2,936	225,272	12.36	5.65	10	Accounting/Auditing	2,306	251,182	10.88	3.73	11	Administrative	1,922	69,744	35.9	0.99	12	Marketing	1,644	164,988	19.46	7.24	13	Project Management	1,442	117,773	3.95	4.65	14	Analyst	1,265	101,863	11.3	4.82	15	Customer Service	1,164	60,834	49.4	0.77	<p>The data is grouped by industry:</p> <ol style="list-style-type: none">The total number of vacancies for each industry is summarized.The average salary per year for vacancies in each industry is calculated.The share of low-paying vacancies in each group is determined.The share of high-paying vacancies in each group is determined. <p>The analysis of the vacancies shows that industries with high demand for personnel, such as Information Technology and Sales, have a large number of vacancies and are in high demand. At the same time, industries with lower salary levels, such as Customer Service and Manufacturing, have a significant share of vacancies with salaries below \$50k per year, which indicates basic qualifications in these fields or underpaid labor.</p> <p>Legal, Engineering, and Health Care stand out for their high salaries, but Legal (with 16.02% of high-paying jobs) has relatively few vacancies, making entry into the field more difficult.</p> <p>Information Technology leads in the number of vacancies and has high salary indicators. However, about 12% of vacancies in this field have low pay, which gives an idea of the accessibility of entry for beginners. Overall, high-paying vacancies make up a significant portion, and the average salary is also high.</p> <p>The identified indicators provide insight into the entry level for each industry, salary trends, demand distribution, and industries that are growing and relevant today.</p>
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What additional benefits do companies provide and in what areas?	<pre>SELECT ci.industry, round(avg(type_total_benefits), 0) AS avg_number_of_benefits, count(p.job_id) AS totally_vacancies, round(sum(p.applies) / sum(p.views) * 100, 1) AS conversion_of_views FROM postings p INNER JOIN (SELECT b.job_id, sum(b.inferred) AS type_total_benefits FROM benefits b WHERE b.inferred <> 0 GROUP BY b.job_id) AS ben ON ben.job_id = p.job_id INNER JOIN company_industries ci ON ci.company_id = p.company_id GROUP BY ci.industry ORDER BY totally_vacancies DESC, avg_number_of_benefits DESC LIMIT 15</pre>	<pre>SELECT ci.industry, round(avg(type_total_benefits), 0) AS avg_number_of_benefits, count(p.job_id) AS totally_vacancies, round(sum(p.applies) / sum(p.views) * 100, 1) AS conversion_of_views FROM postings p INNER JOIN (SELECT b.job_id, sum(b.inferred) AS type_total_benefits FROM benefits b WHERE b.inferred <> 0 GROUP BY b.job_id) AS ben ON ben.job_id = p.job_id INNER JOIN company_industries ci ON ci.company_id = p.company_id GROUP BY ci.industry ORDER BY totally_vacancies DESC, avg_number_of_benefits DESC LIMIT 15</pre>	<p>Industries such as Staffing and Recruiting, IT Services and IT Consulting, and Software Development provide more job benefits per vacancy, which attracts candidates and makes them more competitive while maintaining leadership in the number of vacancies.</p> <p>IT Services stands out, having the highest conversion rate — 18.6%. Despite Hospitals and Health Care leading in the number of vacancies, its conversion rate remains at an average level.</p> <p>Industries with low conversion rates, such as Retail and Manufacturing, need to improve working conditions and offer more attractive job listings. For example, Retail offers only one benefit per vacancy, which significantly lowers the chances of attracting candidates and is the reason for its low conversion rate (2.3%).</p> <p>The low level of benefits in many industries limits candidate interest, so expanding the range of perks could significantly increase engagement.</p>
How does experience level affect review conversion and average IT Services and IT Consulting salary?	<pre>SELECT p.formatted_experience_level, count(p.job_id) AS totally_vacancies, sum(p.applies) AS totally_applies, round(count(p.job_id) / count(distinct(p.company_id)), 0) AS vacancies_per_company, round(sum(p.applies) / count(p.job_id), 0) AS vacancies_per_user, round(avg(p.normalized_salary), 0) AS avg_salary FROM postings p INNER JOIN company_industries ci ON ci.company_id = p.company_id WHERE p.formatted_experience_level IS NOT NULL AND p.normalized_salary IS NOT NULL AND ci.industry = "IT Services and IT Consulting" GROUP BY p.formatted_experience_level ORDER BY vacancies_per_company DESC, avg_salary DESC</pre>	<pre>SELECT p.formatted_experience_level, count(p.job_id) AS totally_vacancies, sum(p.applies) AS totally_applies, round(count(p.job_id) / count(distinct(p.company_id)), 0) AS vacancies_per_company, round(sum(p.applies) / count(p.job_id), 0) AS vacancies_per_user, round(avg(p.normalized_salary), 0) AS avg_salary FROM postings p INNER JOIN company_industries ci ON ci.company_id = p.company_id WHERE p.formatted_experience_level IS NOT NULL AND p.normalized_salary IS NOT NULL AND ci.industry = "IT Services and IT Consulting" GROUP BY p.formatted_experience_level ORDER BY vacancies_per_company DESC, avg_salary DESC</pre>	<p>Overall, vacancies for entry-level and mid-level positions remain the most popular, offering competitive salaries and high chances of employment.</p> <p>The Mid-Senior level stands out with the highest number of vacancies (1386) and a high conversion rate (24.1%), demonstrating significant demand for experienced professionals in IT Services and IT Consulting.</p> <p>The highest average salaries are typical for Director and Executive levels; however, the conversion rate for these positions is lower due to specific requirements and a limited number of candidates.</p> <p>The fewest vacancies are seen at the Internship level, but they have a good conversion rate, indicating a demand among beginners.</p> <p>Both mid-level and entry-level positions offer the most career development opportunities within the industry. The highest level of competition is seen for Mid-Senior and Associate level vacancies due to their high demand.</p>
Make a distribution by vacancies that are called from external sources.	<pre>SELECT p.application_type, count((p.job_id)) AS totally_vacancies, sum((p.applies)) AS totally_applies, count(distinct(p.source_of_application)) AS totally_sources_of_apply, round(sum(p.applies) / count(distinct(p.source_of_application)), 0) AS applies_per_sources FROM postings p INNER JOIN company_industries ci ON ci.company_id = p.company_id GROUP BY p.application_type ORDER BY totally_sources_of_apply DESC</pre>	<pre>SELECT p.application_type, count((p.job_id)) AS totally_vacancies, sum((p.applies)) AS totally_applies, count(distinct(p.source_of_application)) AS totally_sources_of_apply, round(sum(p.applies) / count(distinct(p.source_of_application)), 0) AS applies_per_sources FROM postings p INNER JOIN company_industries ci ON ci.company_id = p.company_id GROUP BY p.application_type ORDER BY totally_sources_of_apply DESC</pre>	<p>For ComplexOnsiteApply, it is recommended to expand the number of application sources, as this type generates the highest number of applications.</p> <p>For OffsiteApply, it would be beneficial to increase the attractiveness of vacancies by adding benefits and improving working conditions, which could raise the average number of applications per source.</p> <p>SimpleOnsiteApply requires analysis and simplification of the application process, as the lack of sources and applications suggests low effectiveness for this format.</p> <p>Overall, increasing the number of application sources can boost the overall flow of candidates for all types of vacancies.</p> <p>It is recommended to focus on using the most effective sources that generate the most applications and expand their reach. Ensuring a convenient and straightforward application process will contribute to improving the conversion rate.</p>