Comparing Database Infrastructures

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| --- | --- | --- | --- | --- | --- | --- | --- |
| Database | Lower Cost (5) | Size and Transport (5) | Locality (5) | Python Accessibility (4) | Cross Compatibility (3) | Ease of Setup (2) | Scalability (1) |
| MySQL | 1 | 3 | 4 | 4 | 4 | 3 | 5 |
| Oracle | 2 | 1 | 1 | 4 | 2 | 3 | 5 |
| SQLite | 3 | 0 | 5 | 5 | 5 | 5 | 3 |
| PostgreSQL | 5 | 3 | 5 | 4 | 5 | 5 | 4 |
| Microsoft Access | 3 | 5 | 5 | 4 | 0 | 4 | 2 |
| LibreOffice Base | 5 | 5 | 4 | 4 | 5 | 4 | 3 |

Adding everything up:

MYSQL: 5\*1 + 5\*3 + 5\*4 + 4\*4 + 3\*4 + 2\*3 + 1\*5

= 5 + 15 + 20 + 16 + 12 + 6 + 5

= 79

Oracle: 5\*2 + 5\*1 + 5\*1 + 4\*4 + 3\*2 + 2\*3 + 1\*5

= 10 + 5 + 5 + 16 + 6 + 6 + 5

= 53

SQLite: 5\*3 + 5\*0 + 5\*5 + 4\*5 + 3\* 5+ 2\*5 + 1\*4

= 15 + 0 +25 + 20 + 15 + 10 + 4

= 89

PostgreSQL: 5\*5 + 5\*3 + 5\*5 + 4\*4 + 3\*5 + 2\*5 + 1\*4

= 25 + 15 + 25 + 16 + 15 + 10 + 4

= 110

Microsoft Access: 5\*3 + 5\*5 + 5\*5 + 4\*4 + 3\*0 + 2\*4 + 1\*2

= 15 + 25 + 25 + 16 + 0 + 8 + 2

= 91

LibreOffice Base: 5\*5 + 5\*5 + 5\*4 + 4\*4 + 3\*5 + 2\*4 + 1\*3

= 25 + 25 + 20 + 16 + 15 + 8 + 3

= 112

So with everything it seems based on the given scenario, LibreOffce Base would be the best option that could be expanded upon at a later date but PostGre is also a very good option. Looking at some fields, it seems there is a python library for all databases, so python access isn’t as large of a concern as previously thought. Being able to transport the database on a hard drive is subjective, most databases seem to be able to load and dump their data into an external drive but some like oracle seem to be more gear towards online warehouses which can make it more difficult to grab the data from the database and put it on a usb drive. Otherwise, it seems completely dependant on the size of data that will be used in testing. Cost was a difficult constraint to narrow down, we have great options that are free, Access is likely already apart an offices’ budget, and the rest have varying commercial costs depending on usage or upfront software licensing purchases. The cross platform compatibility may not be fully accurate as these databases may not be able to move from one infrastructure to another but most infrastructures are available on all major OS systems.