

Lab 3 – Pick a ‘Domain’

Your team will start thinking about a Domain for which you will try to design a small Domain Specific Language over the next couple of days.

Pick a ‘Domain’ for a Domain Specific Language.

Think about the domain and it’s associated problems. Make note of some useful operations and structures to help make processing problems in the domain easier to specify. For now, **don’t worry** about the difficulty in generating code or actions. Just think about how to write concise understandable solutions.

Some ideas for specialized domains:

Cryptography – Operations to easily specify typical math transformations in encryption/decryption.

Compiler Generation – Generation of programming translators.

Text processing – searching, modifying, pattern matching, etc.

Image Processing – Image transformations

Hardware design – Model circuits, registers, logic, etc.

Protocol Design – Easily specify packet layout for networking protocols. Easily model interactions in the protocol

Robotic control language – Easily specify logic for commanding a robot to perform different complex tasks.

Network Security Guard Language – Language to help specify packet filtering specifications (including packet payload analysis).

Some of the above areas already have suggested solutions in industry. If you pick an area like that, you need to design something that differs from existing solutions. [Either avoid searching for information on existing solutions or make sure your solution has different constructs and syntax with **good reasons** behind your design!]

Do not limit your thinking to the above ideas. If there is a domain that is not shown above (and perhaps that someone in the group has knowledge of), then suggest that domain to me and you can likely use it.