A. programming paradigms

compiled

```
print("Hello")
print("world!")
```
source code

→

compiler

→

```
10011001
10110111
11001010
```
machine code of
the source code

OS →

hardware

interpreted

```
print("Hello")
print("world!")
```
source code

read
instruction →

interpreter
< >

→

```
10011001
```
machine code of
the instruction

OS →

hardware

← next instruction

B. automation paradigms

compiled

plan

GPM →

```
<Add
   reagent = "NaCl"
   vessel = "beaker1"
   amount = "5g"/>
```
domain-specific
language

→

chempiler

→

controller

→

lab
instruments

interpreted

plan

GPM →

Add 5g
NaCl to
beaker 1.

specific
steps

GPM →

>_

API code

→

controller

→

lab
instruments

live feedback 🔍