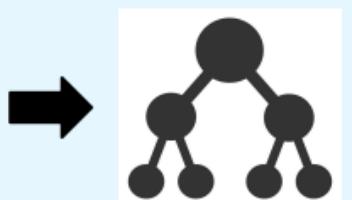


# Concept-to-Code

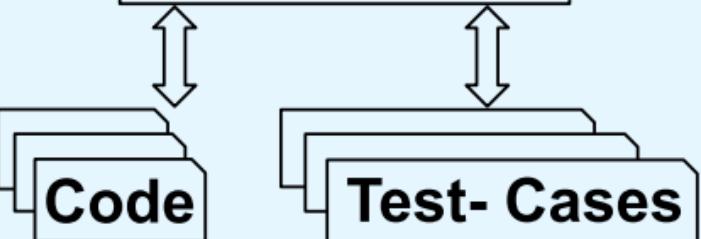
Sources  
{pdf, HTML, Json}  
{Math, Algo, Phy, Chem, ..}



Concepts



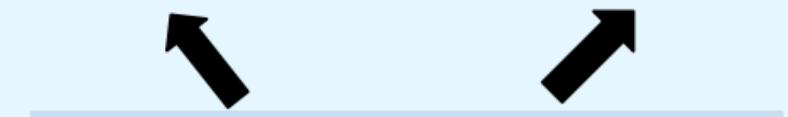
Instruction



# Code Verification



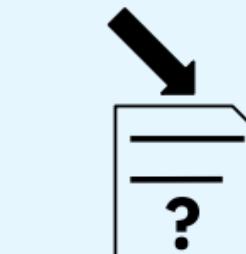
....  
(Code, Tests)      (Code, Tests)  
....  
(Code, Tests)      (Code, Tests)



# CoT Generation

Filtered  
(code, test)  
Exec-Traces

```
numbers = [18.0]
call    3 def calculate_average(numbers)
line   numbers = [18.0]
line   call    3 def calculate_average(numbers)
line   line   4 if not numbers:
line   line   5   total = 0.0
line   line   6   number = total / len(numbers)
line   line   7   total = 8.0
line   line   8   for number in numbers:   average(numbers)
line   line   9       total += number
line   line   10  number = 18.0
line   line   11  for number in numbers:
line   line   12      total += number
line   line   13  number = 18.0
line   line   14  total += number
```



Forward

Backward