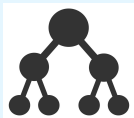


# Concept-to-Code

## Sources

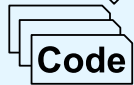
{pdf, HTML,  
Json}  
{Math, Algo,  
Phy, Chem,  
..}



## Concepts



## Instruction



Test- Cases



# Code Verification



(Code, Tests)



(Code, Tests)

....

(Code, Tests)

....

(Code, Tests)



Code1

Test- Case1

Code2

Test- Case2

Code3

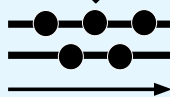
Test- Case3



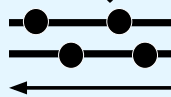
# CoT Generation

Filtered  
(code, test)  
Exec-Traces

```
numbers = [10,8]
call      3 def calculate_average(numbers)
line      4 numbers = [10,8]
line      5 call      4 def calculate_average(numbers)
total = 0  line      6 if not numbers:
line      7     total = 8,8:
number =  line      8     for number in numbers:
line      9         total += number
line     10     number = 10,8
line     11     total += number
```



Forward



Backward