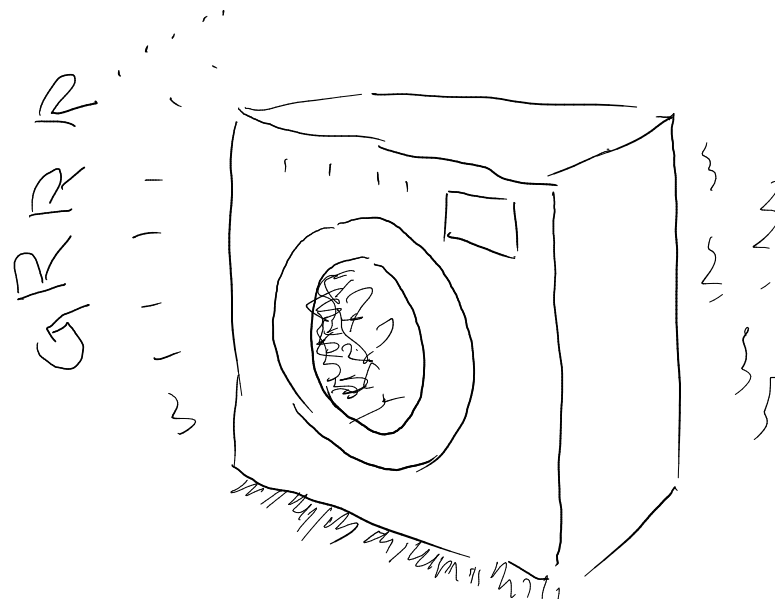


A)

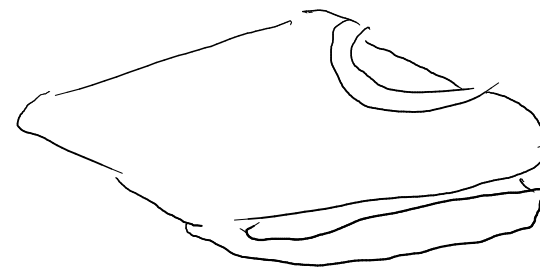
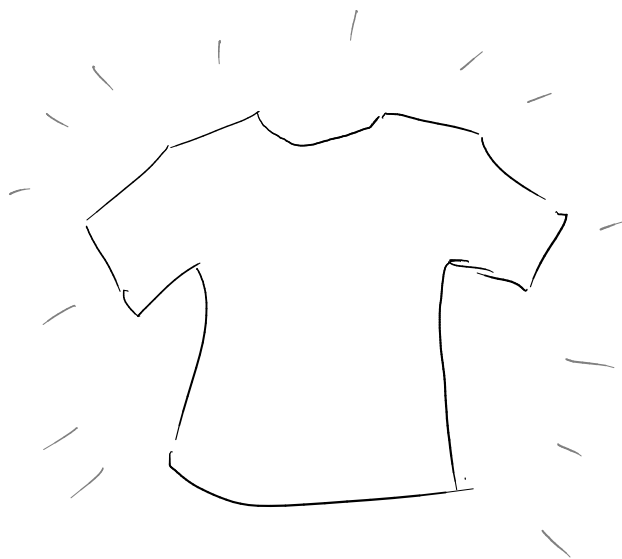


B)



C)





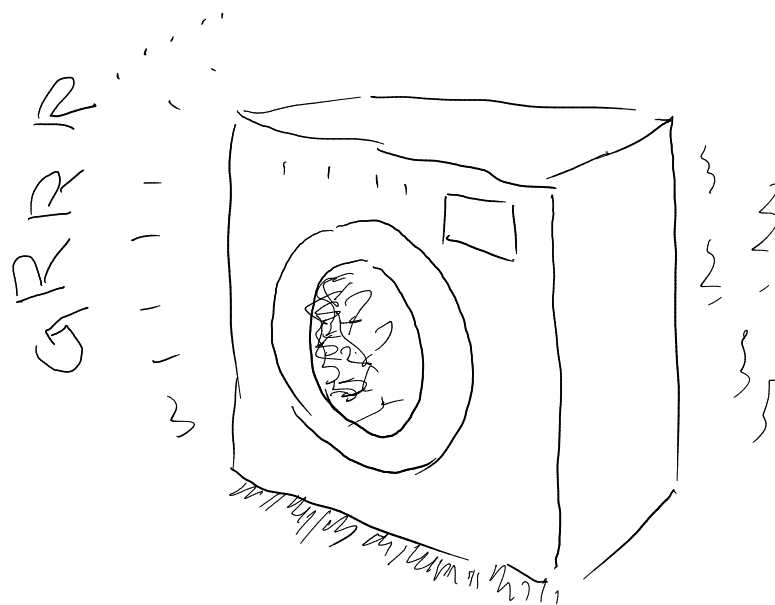
A)



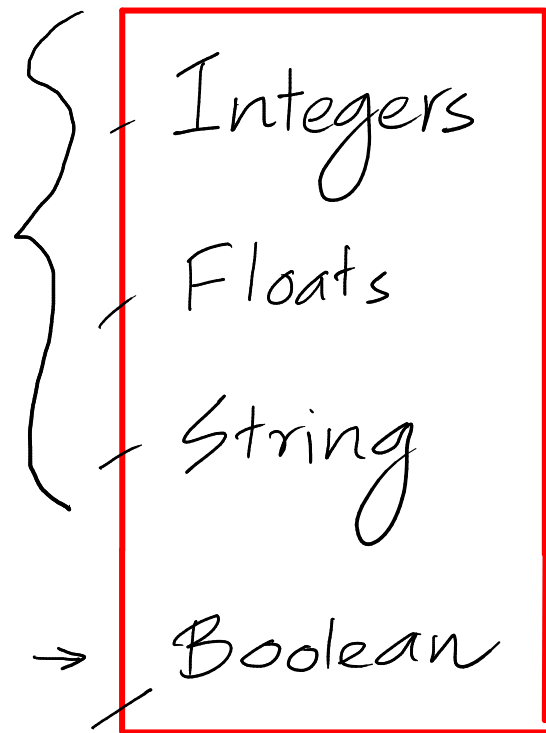
C)



B)



DATA TYPES



1, 2, 9876543210

1.0, 123.45,

"IIITB"

True, False

Quotation marks

"sujit123@iit.ac.in"

Special characters

alphanumeric characters

numeric characters

"1" + "2" + "3"
↑ ↑

A) 6

B) 4

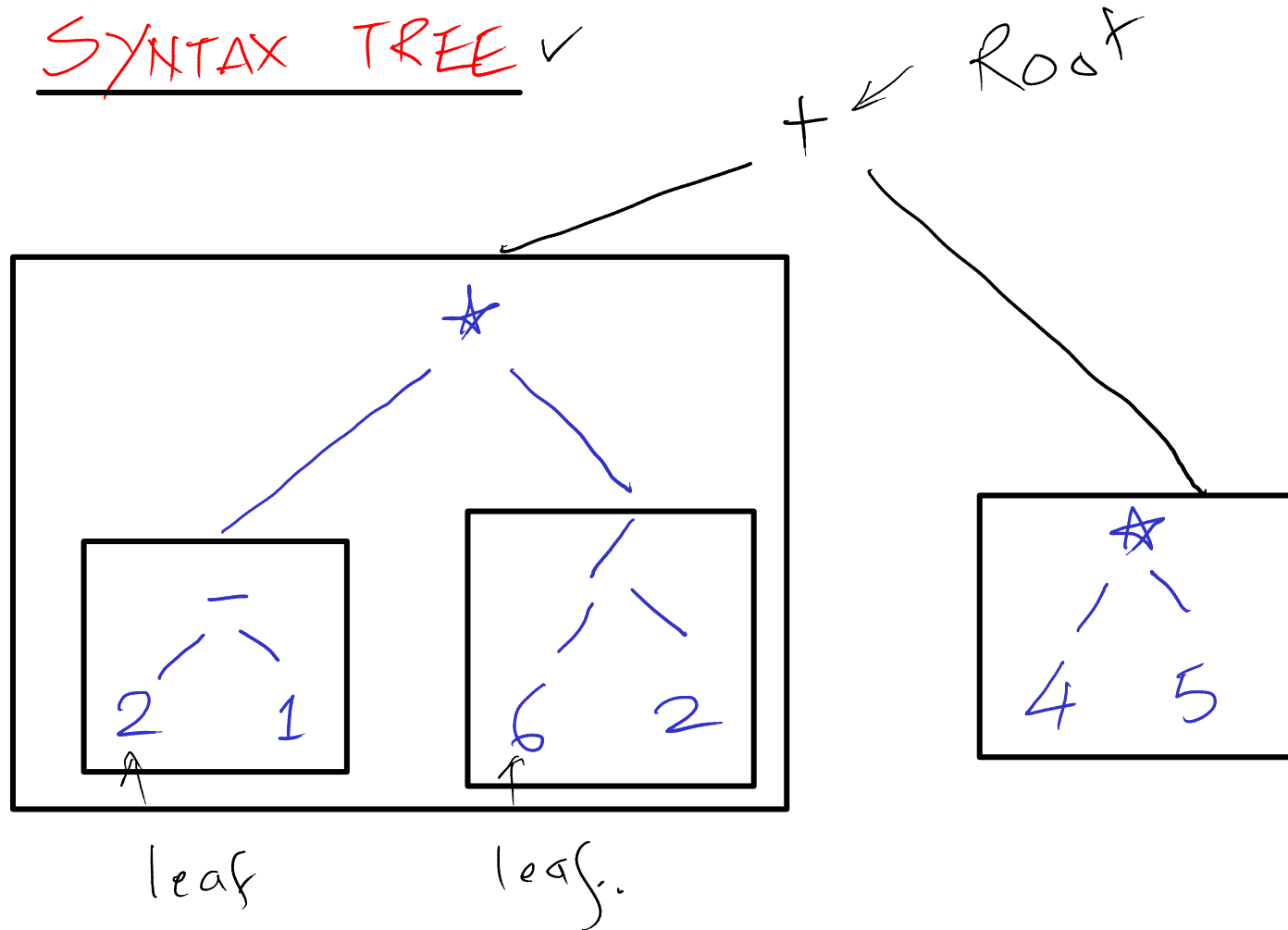
C) 123

D) "123" ✓

String Concatenation

$$((2-1) \star (6/2)) + (4 \star 5)$$

SYNTAX TREE ✓



Syntax

I went ^{to.} school.

— 'to' missing

I went ^{to.} school

— 'full stop' missing.

All languages: lexicon, Grammar.

→ English, Hindi

→ Python, C.

broken



Syntax
error

RELATIONAL OPERATORS

Numbers Number \longrightarrow Boolean

\rightarrow $==$ Equals

\rightarrow $>$ Greater than

\rightarrow $<$ less than

$\rightarrow \rightarrow$ $>=$ Greater than or equal to

$\rightarrow \rightarrow$ $<=$ Less than or equal to.

Data Types

Int, Float, String, Boolean

Operators

Arithmetic : $\text{num} \times \text{num} \rightarrow \text{num}$.

$+$, $-$, $*$, $/$

Relational $\text{num} \times \text{num} \rightarrow \text{boolean}$

$==$, $<$, $>$, $<=$, $>=$

Logical
and, or

$\text{boolean} \times \text{boolean} \rightarrow \text{boolean}$.

Variables

Names used to store value computed

They can be used as part expressions in later computation.