

(EFFICIENCY)

TYPE CHECKING

motivation:

i.e., without simplifying the expression.

approximate the set VAL* U DIV/0*

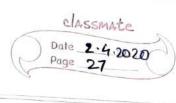
for such "cuell-typed" expressions,

no argument type checking is needed

but is denominator = 0? check is still needed.

a well-typed expression will not get stuck with an argument type mismatch during simplification.

(SAFETY)



TVDF	SYSTEM
1716	0,0.2

n NUM

6 BOOL BOOL

el OP ez NOM OP

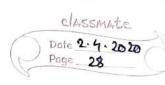
e1 BOOL e2 2 e3 2 IF

e &

e is well-typed if

e 7 for some 7

otherwise, e is ill typed.



ex e = 2/0 + 5 NUM 1 O NOM CHUM) 1 2 NUM (NUM) 3 2 (DO NOM (OP) 6 5 NOM (NOM) 3 2/0 + 5 NUM (OP) e is well-typed but gives a DIV/o at runtimes ex e = i6 true 5 false -> 5 but / e & for any & e is ILL-TYPED but simplifies to a value, not an ATM?

Hwe, but e VALE. there exist e, st.