

Welcome to Class Notebook

Thursday, June 9, 2022 1:24 PM

Your **OneNote Class Notebook** is a digital notebook for the whole class to store text, images, handwritten notes, attachments, links, voice, video, and more.

Each notebook is organized into three parts:

1. **Student Notebooks** — A private space shared between the teacher and each individual student. Teachers can access every student notebook, while students can only see their own.
2. **Content Library** — A read-only space where teachers can share handouts with students.
3. **Collaboration Space** — A space where everyone in your class can share, organize, and collaborate.



How to make the most of Class Notebook in your Class Team:

Start adding materials or collaborating in your Class Notebook today. Use the menu to the left to open or add new pages.

Work in groups. If you've added channels to your class team, use the **Notes tab** in those channels to continue working together in real time. Each channel connects to its own section in the Collaboration Space.

Go full-screen. Launch Class Notebook in full-screen to get more done. Select the double arrow in the upper right of your Microsoft Teams app to expand the window.

Access more features. Select [Open in OneNote](#) to launch Class Notebook in your OneNote app and access more features.

Learn more. Check out the [FAQ: Class Notebook in Microsoft Teams](#) page to learn more

FAQ: Class Notebook in Microsoft Teams

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Where can I get more Class Notebook questions answered?

[OneNote Class Notebook help center](#)

Questions? Need assistance?

File a support ticket at: <https://aka.ms/EDUSupport>

Where can I find OneNote and Class Notebook training resources?

A few short interactive courses on the Microsoft Education Center:

- [OneNote Class Notebook: A teacher's all-in-one notebook for students](#)
- [Getting Started with OneNote - Microsoft in Education](#)
- [OneNote: your one-stop resource - Microsoft in Education](#)

Experiencing permissions issues with your Class Notebook?

[Troubleshoot notebook permissions](#)

Where do I find the settings to manage my Class Notebook?

Go into your Class Notebook in Teams and click the Class Notebook toolbar, and then click **Manage Notebook**. Teachers can edit sections, copy a notebook link, lock the Collaboration Space, or create a Teacher-only section group here.

To manage Collaboration Space permissions or generate parent and guardian links, open Class Notebook in OneNote and then select **Manage Notebooks**.

Join the conversation on social media:

Twitter: [@OneNoteEDU](#) and [@msonenote](#)

Facebook: [OneNote](#)

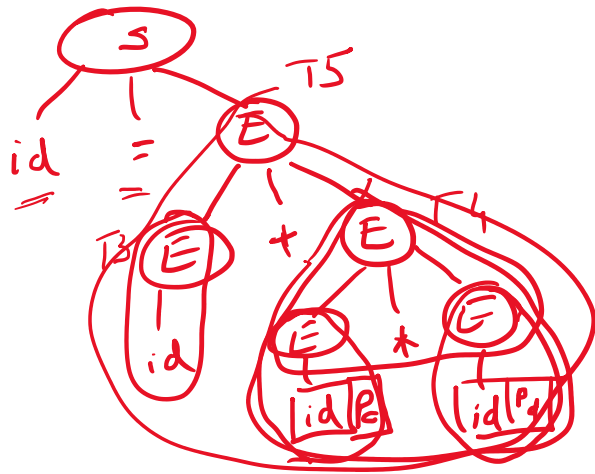
1) Lexical 2) Syntax 3) Semantic

$$a = b + c * d$$

ICG: $L \rightarrow R$ $B \rightarrow T$

TAC (Three Address Code)

$T1 \leftarrow c * d$
 $T2 \leftarrow b$
 $T3 \leftarrow T1 + T2$
 $T4 \leftarrow T3$
 $T5 \leftarrow T4$
 $a \leftarrow T5$



Type 0

Type 1 $T2 \leftarrow d$
 $T4 \leftarrow c * T2$
 $T5 \leftarrow b + T4$
 $a \leftarrow T5$

8086 type

Type 2 (our default option)

$T4 \leftarrow c * d$
 $T5 \leftarrow b + T4$
 $a \leftarrow T5$

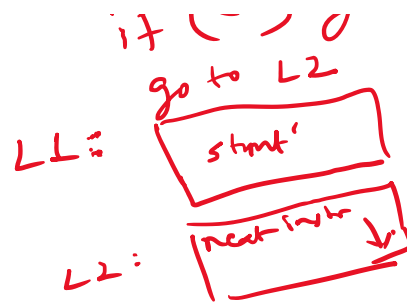
Type 3

$T4 \leftarrow c * d$
 $a \leftarrow b + T4$

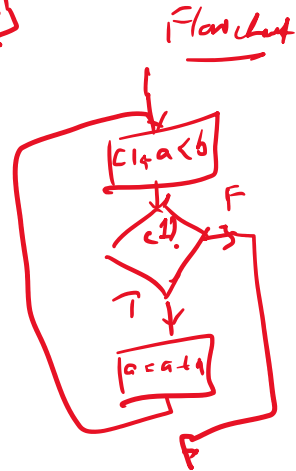
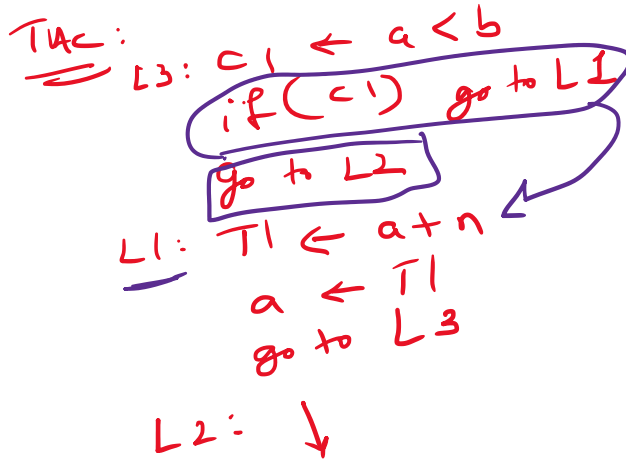
Branch stmt: if (cond) then stmt'

TAC

$C1 \leftarrow \text{cond}$
 if (C1) go to L1
 go to L2

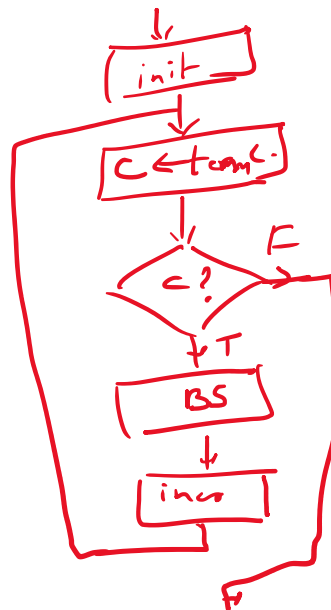


while ($a < b$) $a = a + n$;



for (init ; termcd ; incr) { BS }

Flow chart



Call stmt

foo (p_1, p_2, p_3)

TAC:

PUSH (p_1)
PUSH (p_2)
PUSH (p_3)
CALL (foo , 3)

CALL (foo, 3)

Data structure for IC4

TAC: result \leftarrow operand1 operator operand2

Quadruple

operator	opr 1	opr 2	result

Pointer to Symbol Table/
Literal Table/
Temporary Variable Table

Triple

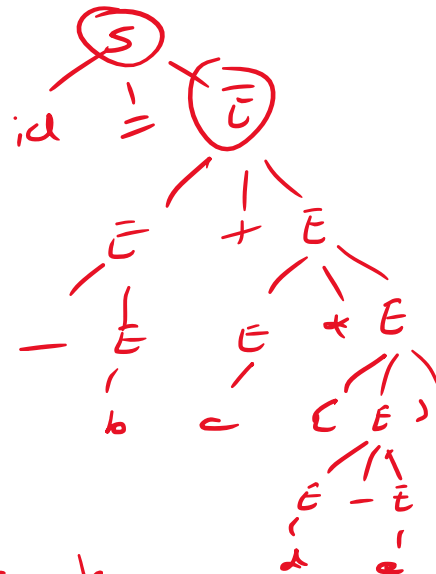
operator	opr 1	opr 2

Pointer to Symbol Table/
Literal Table/
Triple entry

Example

$$a = -b + c * (d - e)$$

TAC: $T_1 \leftarrow -b$
 $T_2 \leftarrow d - e$
 $T_3 \leftarrow c * T_2$
 $T_4 \leftarrow T_1 + T_3$
 $a \leftarrow T_4$



Quadruple

op	o1	o2	r
(0 neg)	b		T1
(1 sub)	d	e	T2
*	c	T2	T3
+	T1	T3	T4
←	T4		a

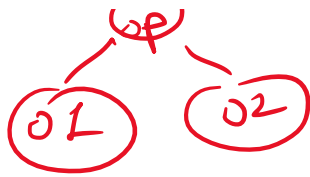


Tree

Triple

Entry No
(1)

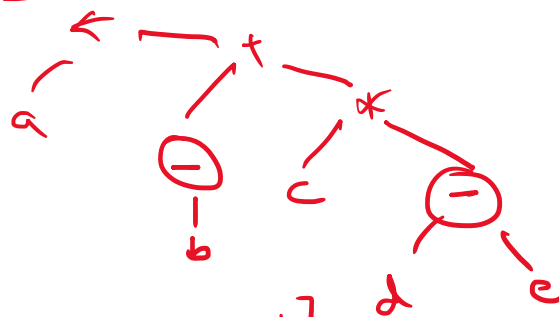
op	o1	o2
(0 neg)	b	
(1 sub)	d	e
(2)	*	(2)
(3)	+	(1) (3)
(4)	←	a (4)
(5)		



Tree

(5)

Expression Tree
or
Syntax Tree



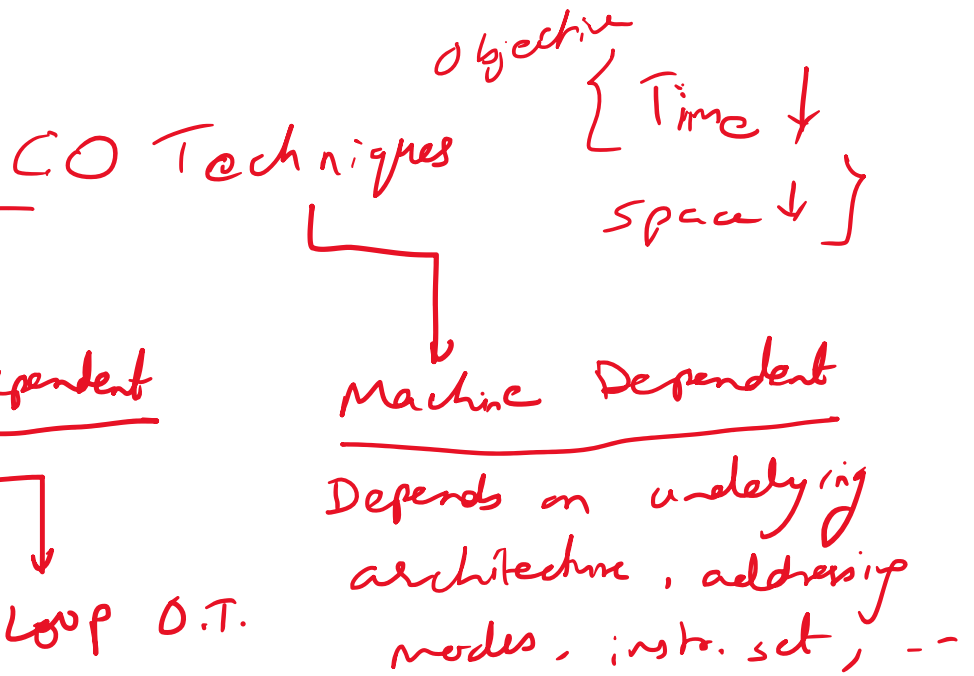
TS by Post order

[L → R → Root]

a b - c d e - * + <

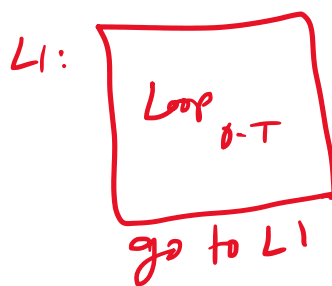
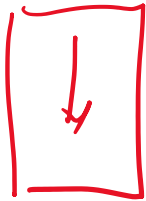


Code Optimization in Compiler



Local O.T.

Loop O.T.



Ex: ① $a \leftarrow a * 4$

$a \leftarrow a \ll 2$
 $a \leftarrow a \ll 2$

Ex: Redundant sub expr

$$a = b * c + e / (b * c)$$

$$T_i \leftarrow b * c$$

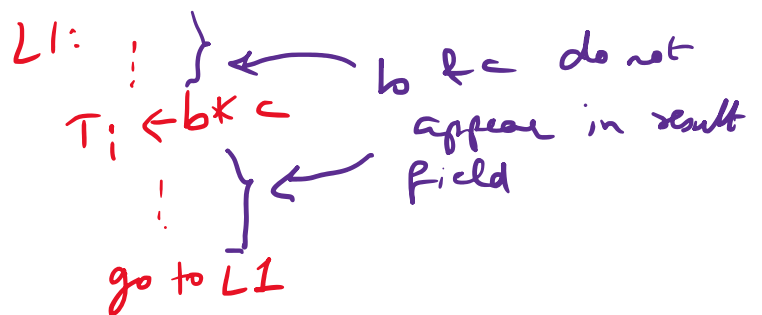
b & c are never result

$$T_j \leftarrow b * c$$

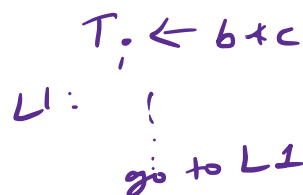
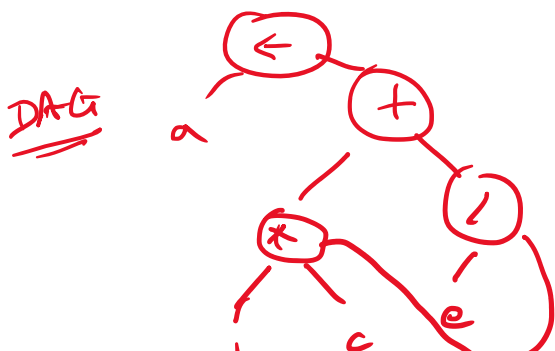
Use T_i instead of T_j

Ex: Loop invariant

② Type 0/1/2/3 & 1/4



Statement $T_i \leftarrow b * c$ is moved outside the loop (Before)





Other Techniques

- ① Algebraic Simplification
- ② Constant propagation
- ③ Copy propagation
- ④ Strength reduction
- ⑤ Loop unrolling
- ⑥ Conditional br over unconditional br.
- ⑦ Dead code elimination