These used to be called "flow charts" and were drawn from top to bottom rather than from left to right. Also there were special shapes for the different elements in the chart.

Flow charts went out of favor with the educational establishment - hence the reappearance under a new name.
Some simple examples

Wednesday, February 08, 2012
2:48 PM

Java Code

If (x<3)       #1
y=5;           #2

Command Tree

Note use of numbered steps #1, #2 instead of the actual Java code.

Railroad Diagram

Note: # not used inside diagram
$ is symbol for place to enter diagram = start

# is symbol for place to exit diagram = end

Parenthesized expressions ALWAYS PRECEDE a SPLIT

Branches of an if or if-else ALWAYS rejoin

true branch

false branch

Discussion of Example
Wednesday, February 08, 2012
2:56 PM
A simple two legged if NEVER has step numbers on its bottom (i.e. false) branch.
Lose credit on exams when making these mistakes:

OKAY

LOSE CREDIT:

LOSE CREDIT:
Loose credit on exams when making these mistakes:

OKAY

LOSE CREDIT:

LOSE CREDIT:
Lose credit on exams when making these mistakes:

**OKAY**  # —— 1 ——

**LOSE CREDIT:**  # 1 ——

**LOSE CREDIT:**  # 1
If (x==2) #3
y=y+1; #7
else z=8; #9

Note: else step #9 goes in bottom branch of if-else splitting.
Sequence Node Diagram

Thursday, February 09, 2012
9:31 AM

{ 
  x=5;      #4
  y=2*x;   #5
  x=x+1;   #6
}

The seq part of the RR diagram
Ifs in a Sequence
Thursday, February 09, 2012
9:37 AM

**COMMAND TREE**

**RR Diagram**

**SUMMARY**

seq pattern
Seqs in an If

Thursday, February 09, 2012
9:55 AM

SUMMARY

if-else pattern

if-else

#2
seq

#3 #4

3 — 4

seq

#5 #6 #7

5 — 6 — 7

$ — 2

#
Loops

while

#4 #5

do-while

#8 #9

always first

LOOP BACK point

while is SPLIT FIRST

exit

exit

do-while is SPLIT LAST

Monday, February 09, 2012
10:26 AM
Lose credit on exams when making these mistakes:

- **OKAY**

- **LOSE CREDIT:**

- **LOSE CREDIT:**