These Tree constructions will be even briefer. Each page will show either:

1. an SUD step (STUB, UNDERLINE, DRAW)
2. a CK step (CHECK OFF NODE, GO UP TREE)
3. an ELSE step (CHANGE IF TO IF-ELSE)

The current steps on a page will be shown in brown - but not otherwise labeled.
while ( x<50 ) {
    x = x+2;
    if (x<30) {
        do y=y+3;
        while(y<12);
    }
}

while ( x<50 ) {
    x = x+2;
    if (x<30)
        do y=y+3;
        while(y<12);
    else x=x+1;
}
while (x<50) {
    x = x+2;
    if (x<30)
        do y=y+3;
    while(y<12);
    else x=x+1;
}
while ( x<50 ) {
    x = x+2;
    if (x<30)
        do y=y+3;
        while(y<12);
    else x=x+1;
}
while ( x<50 ) {
  \textcolor{blue}{x = x+2;}
  \textcolor{red}{\text{if} (x<30)}
    \textcolor{red}{do y=y+3;}
    \textcolor{red}{\text{while}(y<12);} \\
  \textcolor{red}{\text{else} x=x+1;} \\
}

\textbf{while ( x<50 ) } \\
\hspace{1cm} \textbf{x = x+2;} \\
\hspace{1cm} \textbf{if (x<30) } \\
\hspace{2cm} \textbf{do y=y+3;} \\
\hspace{2cm} \textbf{while(y<12);} \\
\hspace{2cm} \textbf{else x=x+1;} \\
\textbf{}
while (x<50) {
  x = x+2;
  if (x<30)
    do y=y+3;
    while(y<12);
  else x=x+1;
}
while ( x<50 ) {
  x = x+2;
  if (x<30)
    do y=y+3;
    while(y<12);
  else x=x+1;
}

NOTE: do-while is NOT LIKE if-else because there is no choice.
do-while always has TWO legs and always has a while phrase at the end of it.
You CANNOT underline the while phrase YET because that would be skipping ahead.
while ( x<50 ) {
    x = x+2;
    if (x<30) {
        do y=y+3;
        while(y<12);
    }
    else x=x+1;
}
while (x<50) {
    x = x+2;
    if (x<30)
        do y=y+3;
    while(y<12);
    else x=x+1;
}

NOTE: the code has:
   (1) while
   (2) parenthesized expression.
   (3) semicolon (;)
   (4) ALL OF IT UNDERLINED

BUT the tree ONLY HAS the expression.
```plaintext
while (x<50)
    x = x+2;
    if (x<30)
        do y=y+3;
        while(y<12);
    else x=x+1;
```

```
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```
while ( x<50 ) {
    x = x+2;
    if (x<30)
        do y=y+3;
        while(y<12);
    else x=x+1;
}
while (x<50) {
  x = x+2;
  if (x<30)
    do y=y+3;
    while(y<12);
  else x=x+1;
}

```vbnet
while (x<50) {
  x = x+2;
  if (x<30)
    do y=y+3;
    while(y<12);
  else x=x+1;
}
```
while ( x<50 ) {
    x = x+2;
    if (x<30)
        do y=y+3;
        while(y<12);
    else x=x+1;
}
while ( x<50 ) {
    x = x+2;
    if (x<30) {
        do y=y+3;
        while(y<12);
        else x=x+1;
    }
}
while ( x<50 ) {
    x = x+2;
    if (x<30)
        do y=y+3;
        while(y<12);
    else x=x+1;
}

while ( x<50 ) {
    x = x+2;
    if (x<30)
        do y=y+3;
        while(y<12);
    else x=x+1;
}