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Parsing - Part I

Complete Course on Compiler Design

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```
int main()
{
    char a = 'b';          // 10(5)
    char *c = "string";    // 16(6)
    float d = 20.5;        // 21(5)
    char ar a = 'b';       // 27(6)
    char ar *c = "strizg"; // 34(7)
    flo aft d = 20.5;      // 40(6)
    ch/comm o/ar a = 'b';  // 46(6)
    ch/o comm o/ar *c = "strig"; // 53(7)
}
```

54

(A) 49

(B) 51

(C) 52

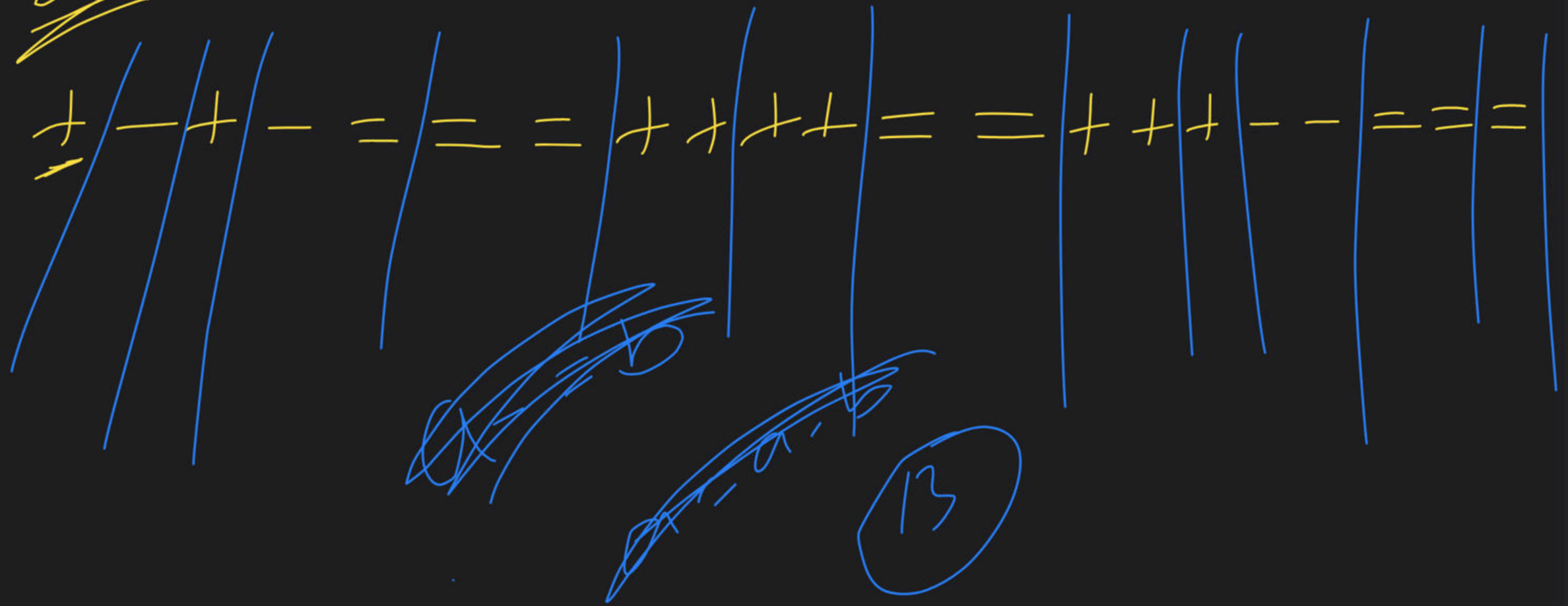
(D) 54

&CCC

```
void main()
{
    int a = 10;
    while(1)
    {
        printf("%s", "abc");
    }
}
```

```
void main()
{
}  ⟹ 5

printf("%d", g, h, f, j);  ⟹ 16

c = d + e - 22 + g * h + klmn;

b = d + e;

c = ghi;

{
```

ex



Which one of the following is said to be Token without reading next i/p symbol.

(a) int & inta

(b) float & floatb

(c) return & returnc

(d) ; (e) , (f) (

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Grammar

$G(V, T, P, S)$ — Start Symbol

Terminal $\{a, b\}$

Variable $\{S, A, B\}$

Productions

$S \rightarrow AB$

$A \rightarrow a$

$B \rightarrow b$

$T = \{i, j, g, h\}$

$V = \{S, A, B, C, D, E, F\}$

$S \rightarrow ABCD \mid j$

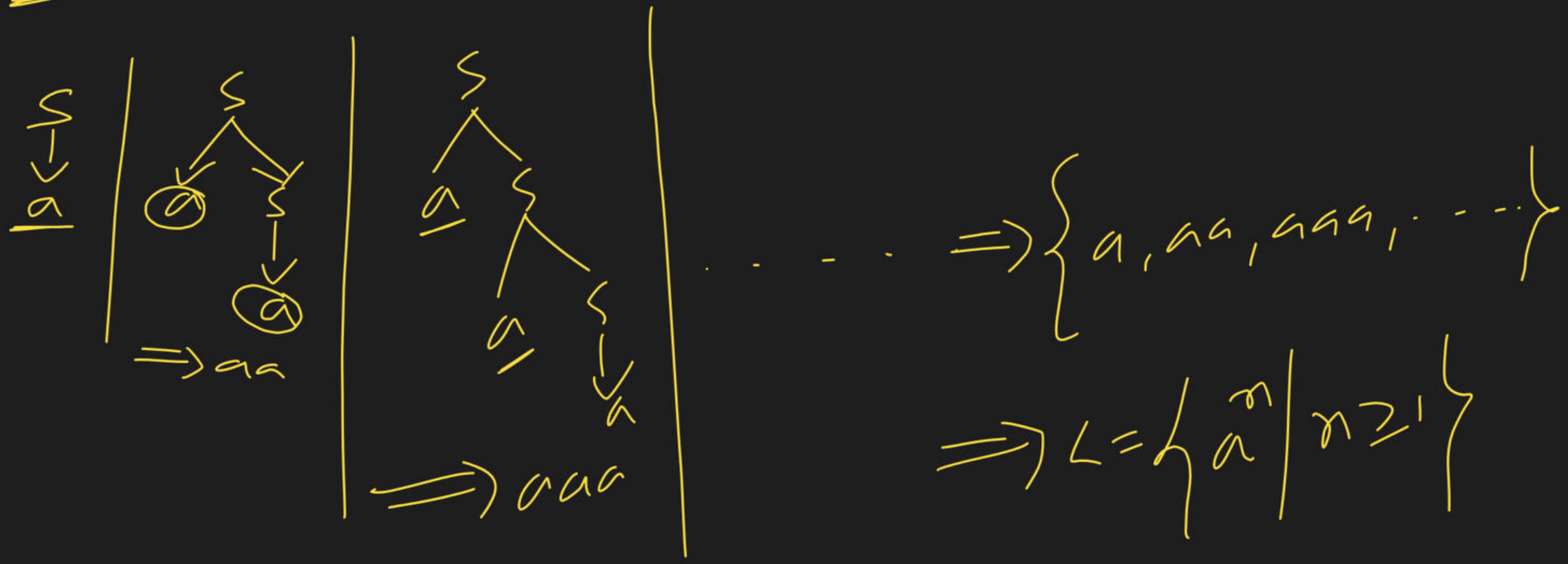
$A \rightarrow BCD \mid i$

$C \rightarrow DEF \mid h \mid P$

$E \rightarrow g$

Ex

$S \rightarrow aS \mid a$



cd

Context Free Grammar

$S \rightarrow aS \mid Sa \mid a$

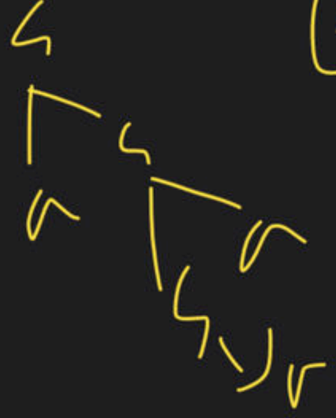
$a \Rightarrow 1$

string: aa

aaa

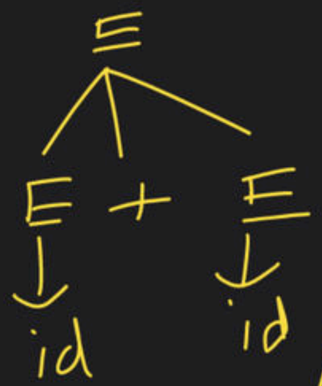
2-Parse Tree possible

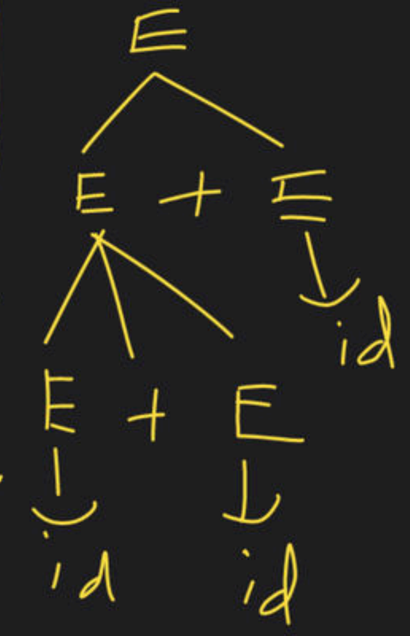
Ambiguous

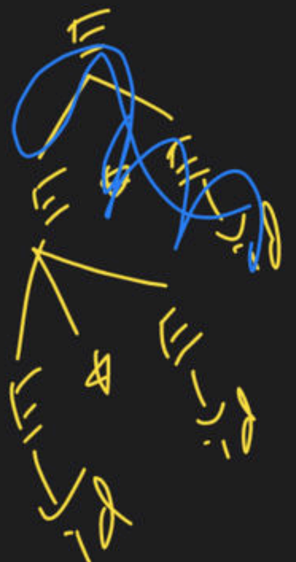


Ex

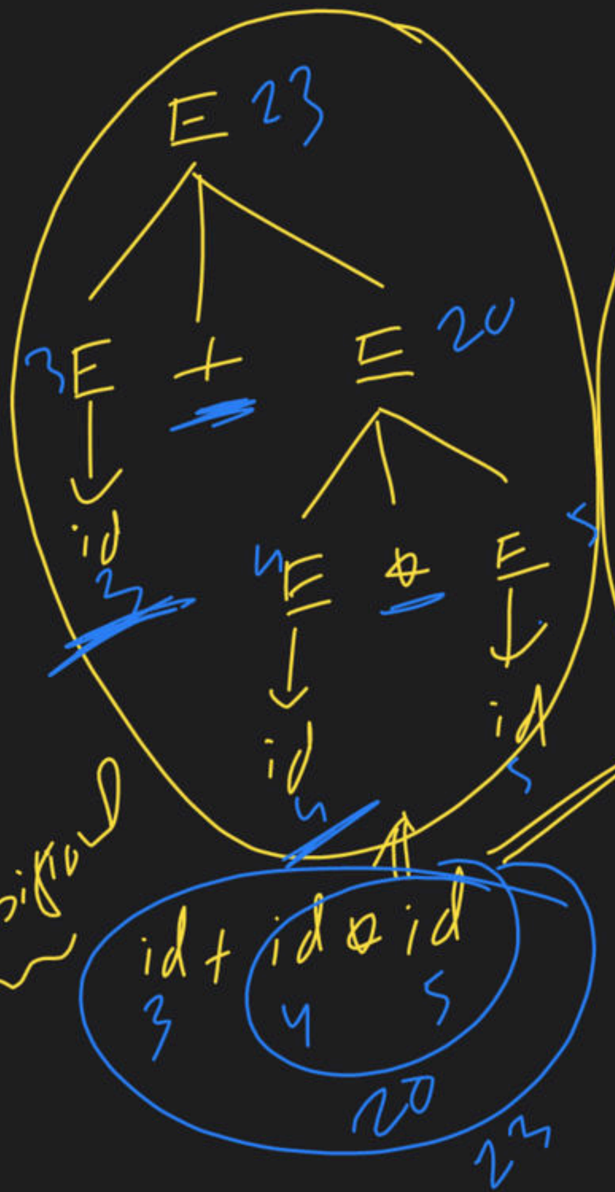
$E \rightarrow E+E \mid E*E \mid id \mid E-E \mid E/E$

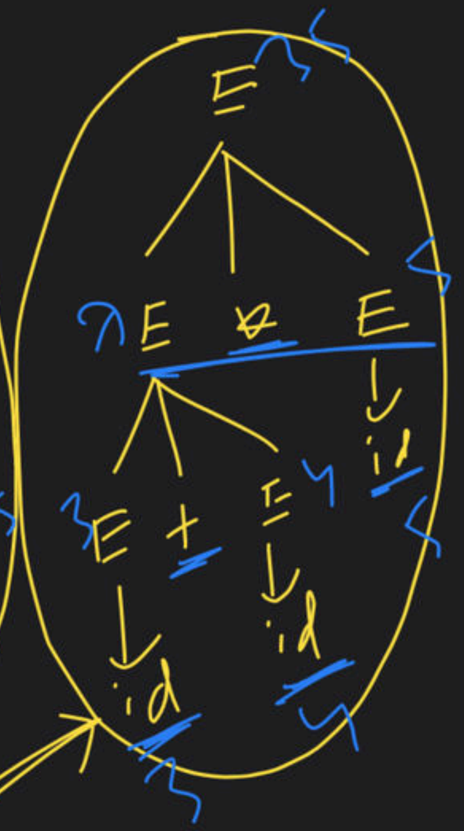






It is ambiguous grammar





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Conversion from Ambiguous to Unambiguous according to C-Language