I. Testcase 목록

1) CFG:

$$S \to S\,S + \mid S\,S * \mid a$$

Start symbol: S
정답: True

2) CFG:

$$S \to S\,(\,S\,) \mid \epsilon$$

Start symbol: S
정답: True

3) CFG:

$$S \to S\,A \mid A$$
$$A \to a$$

Start symbol: S
정답: True

4) CFG:

$$S \to A_1\,b_1 \mid A_2\,b_2 \mid A_3\,b_3 \mid A_4\,b_4 \mid A_5\,b_5$$
$$A_1 \to a_2 \mid a_3 \mid a_4 \mid a_5 \mid a_2\,A_1 \mid a_3\,A_1 \mid a_4\,A_1 \mid a_5\,A_1$$
$$A_2 \to a_1 \mid a_3 \mid a_4 \mid a_5 \mid a_1\,A_2 \mid a_3\,A_2 \mid a_4\,A_2 \mid a_5\,A_2$$
$$A_3 \to a_1 \mid a_2 \mid a_4 \mid a_5 \mid a_1\,A_3 \mid a_2\,A_3 \mid a_4\,A_3 \mid a_5\,A_3$$
$$A_4 \to a_1 \mid a_2 \mid a_3 \mid a_5 \mid a_1\,A_4 \mid a_2\,A_4 \mid a_3\,A_4 \mid a_5\,A_4$$
$$A_5 \to a_1 \mid a_2 \mid a_3 \mid a_4 \mid a_1\,A_5 \mid a_2\,A_5 \mid a_3\,A_5 \mid a_4\,A_5$$

Start symbol: S
정답: True

5) CFG:

$$E \to E + E \mid E * E \mid (\,E\,) \mid id$$

Start symbol: E
정답: False

6) CFG:

$$S \to A\,a\,A\,b \mid B\,b\,B\,a$$
$$A \to \epsilon$$
$$B \to \epsilon$$

Start symbol: S
정답: False

7) CFG:

$$S \to A\,a \mid b\,A\,c \mid d\,c \mid b\,d\,a$$
$$A \to d$$

Start symbol: S
정답: False

8) CFG:

$$S \to A\,a \mid b\,A\,c \mid B\,c \mid d\,B\,a$$
$$A \to d$$
$$A \to d$$

Start symbol: S
정답: False

9) CFG:

$$S' \to S$$
$$S \to S + E \mid U\,A\,L$$
$$E \to U\,o\,L'$$
$$A \to L\,L$$
$$U \to G \mid W \mid D \mid J$$
$$L \to a \mid o \mid d \mid n \mid l$$
$$L' \to e \mid b \mid \epsilon$$

Start symbol: S'
정답: True

10) CFG:

$$S' \to S$$
$$S \to S\,E \mid U\,L$$
$$E \to U'\,L\,!$$
$$U \to T\,a$$
$$U' \to C\,a$$
$$L \to L'\,e \mid \epsilon$$
$$L' \to r \mid k$$

Start symbol: S'
정답: True

11) CFG:

$$S' \to S$$
$$S \to S \,/\, E \mid A + B$$
$$E \to A \text{-} B$$
$$A \to (\,a \mid a\,) \mid \epsilon$$
$$B \to (\,b \mid b\,) \mid \epsilon$$

Start symbol: S'
정답: True

12) CFG:

$$S' \to S$$
$$S \to S \,/\, E \mid E + E$$
$$E \to E' \text{-} E' \mid (\,a \mid b\,)$$
$$E' \to (\,a \mid b\,)$$

Start symbol: S'
정답: False

13) CFG:

$$S' \to S$$
$$S \to E * E \mid E + E$$
$$E \to E' + x \mid y * E'$$
$$E' \to y \mid x$$

Start symbol: S'
정답: False

14) CFG:

$$S' \to S$$
$$S \to E * E' \mid E + E'$$
$$E \to E' - x \mid y / E' \mid E' \mid \epsilon$$
$$E' \to y \mid x \mid \epsilon$$

Start symbol: S'
정답: False

15) CFG:

$$S \to c \, V \, i \, K \, e$$
$$K \to C \mid K \, C$$
$$C \to R \,) \, A \, ;;$$
$$R \to B \mid R \mid B$$
$$V \to s$$
$$A \to b$$
$$B \to v$$

Start symbol: S
정답: True

16) CFG:

$$S \to c \, V \, i \, K \, e$$
$$K \to C \mid K \, C \mid \epsilon$$
$$C \to R \,) \, A \, ;;$$
$$R \to B \mid R \mid B$$
$$V \to s$$
$$A \to b$$
$$B \to v$$

Start symbol: S
정답: False

17) CFG:

$$E \to E \, T \, + \mid T$$
$$T \to T \, F \, * \mid F$$
$$F \to (\, E \,) \mid id$$

Start symbol: E
정답: False

18) CFG:

$$E \rightarrow + E\ E \mid *\ E\ E \mid (\ E\ ) \mid id$$

Start symbol: E
정답: True

19) CFG:

$$R \rightarrow R \mid E \mid R\ * \mid R\ E \mid E$$
$$E \rightarrow (\ R\ ) \mid a \mid b$$

Start symbol: R
정답: True

20) CFG:

$$R \rightarrow R \mid E \mid R\ * \mid R\ E \mid E \mid (\ R\ ) \mid a \mid b$$

Start symbol: R
정답: False

ii. Parse
   1) Sentence:

     a a a * +

   CFG:

     $S \rightarrow S\,S + \mid S\,S * \mid a$

   Start symbol: S
   정답: True

   2) Sentence:

     a a a * + +

   CFG:

     $S \rightarrow S\,S + \mid S\,S * \mid a$

   Start symbol: S
   정답: False

   3) Sentence:

     ((( ))) ( ) (( ))

   CFG:

     $S \rightarrow S\,(\,S\,) \mid \epsilon$

   Start symbol: S
   정답: True

   4) Sentence:

     ( ) ( )) (( )

   CFG:

     $S \rightarrow S\,(\,S\,) \mid \epsilon$

   Start symbol: S
   정답: False

   5) Sentence:

     a a a a a a

   CFG:

     $S \rightarrow S\,A \mid A$
     $A \rightarrow a$

   Start symbol: S
   정답: True

   6) Sentence:

     a a a a a a b

   CFG:

     $S \rightarrow S\,A \mid A$
     $A \rightarrow a$

Start symbol: S

정답: False

7) Sentence:

$a_1 \ a_2 \ a_3 \ a_2 \ a_2 \ a_5 \ b_4$

CFG:

$$S \rightarrow A_1 \ b_1 \mid A_2 \ b_2 \mid A_3 \ b_3 \mid A_4 \ b_4 \mid A_5 \ b_5$$
$$A_1 \rightarrow a_2 \mid a_3 \mid a_4 \mid a_5 \mid a_2 \ A_1 \mid a_3 \ A_1 \mid a_4 \ A_1 \mid a_5 \ A_1$$
$$A_2 \rightarrow a_1 \mid a_3 \mid a_4 \mid a_5 \mid a_1 \ A_2 \mid a_3 \ A_2 \mid a_4 \ A_2 \mid a_5 \ A_2$$
$$A_3 \rightarrow a_1 \mid a_2 \mid a_4 \mid a_5 \mid a_1 \ A_3 \mid a_2 \ A_3 \mid a_4 \ A_3 \mid a_5 \ A_3$$
$$A_4 \rightarrow a_1 \mid a_2 \mid a_3 \mid a_5 \mid a_1 \ A_4 \mid a_2 \ A_4 \mid a_3 \ A_4 \mid a_5 \ A_4$$
$$A_5 \rightarrow a_1 \mid a_2 \mid a_3 \mid a_4 \mid a_1 \ A_5 \mid a_2 \ A_5 \mid a_3 \ A_5 \mid a_4 \ A_5$$

Start symbol: S

정답: True

8) Sentence:

$a_3 \ a_2 \ a_3 \ a_5 \ b_3$

CFG:

$$S \rightarrow A_1 \ b_1 \mid A_2 \ b_2 \mid A_3 \ b_3 \mid A_4 \ b_4 \mid A_5 \ b_5$$
$$A_1 \rightarrow a_2 \mid a_3 \mid a_4 \mid a_5 \mid a_2 \ A_1 \mid a_3 \ A_1 \mid a_4 \ A_1 \mid a_5 \ A_1$$
$$A_2 \rightarrow a_1 \mid a_3 \mid a_4 \mid a_5 \mid a_1 \ A_2 \mid a_3 \ A_2 \mid a_4 \ A_2 \mid a_5 \ A_2$$
$$A_3 \rightarrow a_1 \mid a_2 \mid a_4 \mid a_5 \mid a_1 \ A_3 \mid a_2 \ A_3 \mid a_4 \ A_3 \mid a_5 \ A_3$$
$$A_4 \rightarrow a_1 \mid a_2 \mid a_3 \mid a_5 \mid a_1 \ A_4 \mid a_2 \ A_4 \mid a_3 \ A_4 \mid a_5 \ A_4$$
$$A_5 \rightarrow a_1 \mid a_2 \mid a_3 \mid a_4 \mid a_1 \ A_5 \mid a_2 \ A_5 \mid a_3 \ A_5 \mid a_4 \ A_5$$

Start symbol: S

정답: False

9) Sentence:

$\mathrm{G \ o \ o \ d} + \mathrm{J \ o \ b}$

CFG:

$$S' \rightarrow S$$
$$S \rightarrow S + E \mid U \ A \ L$$
$$E \rightarrow U \ o \ L'$$
$$A \rightarrow L \ L$$
$$U \rightarrow G \mid W \mid D \mid J$$
$$L \rightarrow a \mid o \mid d \mid n \mid l$$
$$L' \rightarrow e \mid b \mid \epsilon$$

Start symbol: S'

정답: True

10) Sentence:

$\mathrm{W \ e \ l \ l} + \mathrm{d \ o \ n \ e}$

CFG:

$S' \rightarrow S$
$S \rightarrow S + E \mid U\,A\,L$
$E \rightarrow U\,o\,L'$
$A \rightarrow L\,L$
$U \rightarrow G \mid W \mid D \mid J$
$L \rightarrow a \mid o \mid d \mid n \mid l$
$L' \rightarrow e \mid b \mid \epsilon$

Start symbol: S'
정답: False

11) Sentence:

T a k e C a r e !

CFG:

$S' \rightarrow S$
$S \rightarrow S\,E \mid U\,L$
$E \rightarrow U'\,L\,!$
$U \rightarrow T\,a$
$U' \rightarrow C\,a$
$L \rightarrow L'\,e \mid \epsilon$
$L' \rightarrow r \mid k$

Start symbol: S'
정답: True

12) Sentence:

(a + b) / (a - b)

CFG:

$S' \rightarrow S$
$S \rightarrow S\,/\,E \mid A + B$
$E \rightarrow A\,-\,B$
$A \rightarrow (\,a \mid a\,) \mid \epsilon$
$B \rightarrow (\,b \mid b\,) \mid \epsilon$

Start symbol: S'
정답: True

13) Sentence:

(a + b)

CFG:

$S' \rightarrow S$
$S \rightarrow S / E \mid A + B$
$E \rightarrow A - B$
$A \rightarrow (a \mid a) \mid \epsilon$
$B \rightarrow (b \mid b) \mid \epsilon$

Start symbol: S'
정답: True

14) Sentence:

(a - b)

CFG:

$S' \rightarrow S$
$S \rightarrow S / E \mid A + B$
$E \rightarrow A - B$
$A \rightarrow (a \mid a) \mid \epsilon$
$B \rightarrow (b \mid b) \mid \epsilon$

Start symbol: S'
정답: False

15) Sentence:

c v i b | b) s ;; b) s ;; e

CFG:

$S \rightarrow c V i K e$
$K \rightarrow C \mid K C$
$C \rightarrow R) A ;;$
$R \rightarrow B \mid R \mid B$
$V \rightarrow s$
$A \rightarrow b$
$B \rightarrow v$

Start symbol: S
정답: True

16) Sentence:

c v i e

CFG:

$S \rightarrow c \, V \, i \, K \, e$
$K \rightarrow C \mid K \, C$
$C \rightarrow R \,) \, A \, ;;$
$R \rightarrow B \mid R \mid B$
$V \rightarrow s$
$A \rightarrow b$
$B \rightarrow v$

Start symbol: S
정답: False

17) Sentence:

$* \, (\, + \, id \, (\, * \, (\, + \, id \, id \,) \, id \,) \,) \, (\, + \, (\, * \, id \, id \,) \, id \,)$

CFG:

$E \rightarrow + \, E \, E \mid * \, E \, E \mid (\, E \,) \mid id$

Start symbol: E
정답: True

18) Sentence:

$(\, a \,) \mid b \, * \mid (\, a \, * \, b \,)$

CFG:

$R \rightarrow R \mid E \mid R \, * \mid R \, E \mid E$
$E \rightarrow (\, R \,) \mid a \mid b$

Start symbol: R
정답: True

19) Sentence:

$(\, a \,) \mid b \, * \mid (\, a \, * \, b \, * \mid)$

CFG:

$R \rightarrow R \mid E \mid R \, * \mid R \, E \mid E$
$E \rightarrow (\, R \,) \mid a \mid b$

Start symbol: R
정답: False

20) Sentence:

$(\, a \,) \mid b \, * \mid$

CFG:

$R \rightarrow R \mid E \mid R \, * \mid R \, E \mid E$
$E \rightarrow (\, R \,) \mid a \mid b$

Start symbol: R
정답: False