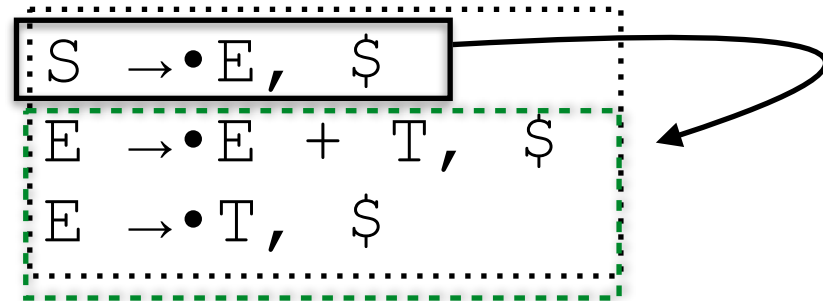


1. $S \rightarrow E$
2. $E \rightarrow E + T$
3. $E \rightarrow T$
4. $T \rightarrow n$
5. $T \rightarrow (E)$

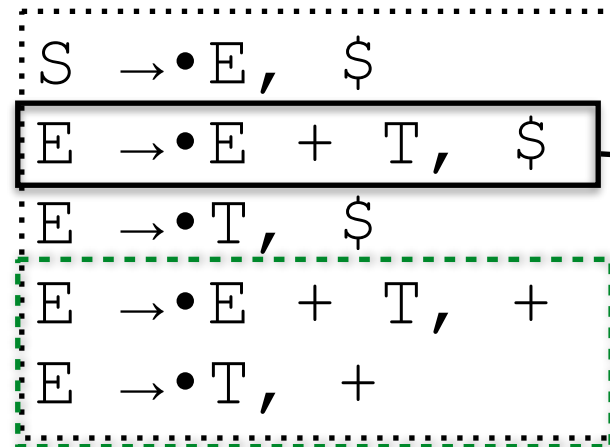
$S \rightarrow \bullet E, \$$

1. $S \rightarrow E$
2. $E \rightarrow E + T$
3. $E \rightarrow T$
4. $T \rightarrow n$
5. $T \rightarrow (E)$

FIRST($\$$) = $\$$



1. $S \rightarrow E$
2. $E \rightarrow E + T$
3. $E \rightarrow T$
4. $T \rightarrow n$
5. $T \rightarrow (E)$



FIRST(+ T \$) = +

1. $S \rightarrow E$
2. $E \rightarrow E + T$
3. $E \rightarrow T$
4. $T \rightarrow n$
5. $T \rightarrow (E)$

$S \rightarrow \bullet E, \$$
$E \rightarrow \bullet E + T, \$$
$E \rightarrow \bullet T, \$$
$E \rightarrow \bullet E + T, +$
$E \rightarrow \bullet T, +$
$T \rightarrow \bullet n, \$$
$T \rightarrow \bullet (E), \$$

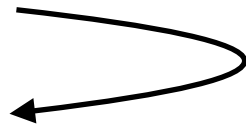
FIRST(\$) = \$



1. $S \rightarrow E$
2. $E \rightarrow E + T$
3. $E \rightarrow T$
4. $T \rightarrow n$
5. $T \rightarrow (E)$

$S \rightarrow \bullet E, \$$
$E \rightarrow \bullet E + T, \$$
$E \rightarrow \bullet T, \$$
$E \rightarrow \bullet E + T, +$
$E \rightarrow \bullet T, +$
$T \rightarrow \bullet n, \$$
$T \rightarrow \bullet (E), \$$

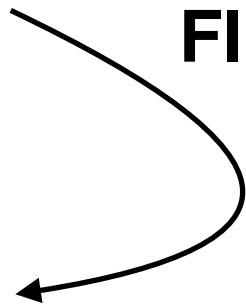
FIRST(+ T +) = +



1. $S \rightarrow E$
2. $E \rightarrow E + T$
3. $E \rightarrow T$
4. $T \rightarrow n$
5. $T \rightarrow (E)$

$S \rightarrow \bullet E, \$$
$E \rightarrow \bullet E + T, \$$
$E \rightarrow \bullet T, \$$
$E \rightarrow \bullet E + T, +$
$E \rightarrow \bullet T, +$
$T \rightarrow \bullet n, \$$
$T \rightarrow \bullet (E), \$$
$T \rightarrow \bullet n, +$
$T \rightarrow \bullet (E), +$

FIRST(+) = +



1. $S \rightarrow E$
2. $E \rightarrow E + T$
3. $E \rightarrow T$
4. $T \rightarrow n$
5. $T \rightarrow (E)$

$S \rightarrow \bullet E, \$$
$E \rightarrow \bullet E + T, \$$
$E \rightarrow \bullet T, \$$
$E \rightarrow \bullet E + T, +$
$E \rightarrow \bullet T, +$
$T \rightarrow \bullet n, \$$
$T \rightarrow \bullet (E), \$$
$T \rightarrow \bullet n, +$
$T \rightarrow \bullet (E), +$

E

$S \rightarrow E \bullet, \$$
$E \rightarrow E \bullet + T, \$$
$E \rightarrow E \bullet + T, +$

T

n

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1. $S \rightarrow E$
2. $E \rightarrow E + T$
3. $E \rightarrow T$
4. $T \rightarrow n$
5. $T \rightarrow (E)$

$S \rightarrow \bullet E, \$$
$E \rightarrow \bullet E + T, \$$
$E \rightarrow \bullet T, \$$
$E \rightarrow \bullet E + T, +$
$E \rightarrow \bullet T, +$
$T \rightarrow \bullet n, \$$
$T \rightarrow \bullet (E), \$$
$T \rightarrow \bullet n, +$
$T \rightarrow \bullet (E), +$

E

$S \rightarrow E \bullet, \$$
$E \rightarrow E \bullet + T, \$$
$E \rightarrow E \bullet + T, +$

T

n

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No shift/reduce conflict!

* reduce on \$

* shift on +

1. $S \rightarrow E$
2. $E \rightarrow E + T$
3. $E \rightarrow T$
4. $T \rightarrow n$
5. $T \rightarrow (E)$

$S \rightarrow \bullet E, \$$
 $E \rightarrow \bullet E + T, \$$
 $E \rightarrow \bullet T, \$$
 $E \rightarrow \bullet E + T, +$
 $E \rightarrow \bullet T, +$
 $T \rightarrow \bullet n, \$$
 $T \rightarrow \bullet (E), \$$
 $T \rightarrow \bullet n, +$
 $T \rightarrow \bullet (E), +$

E

$S \rightarrow E \bullet, \$$
 $E \rightarrow E \bullet + T, \$$
 $E \rightarrow E \bullet + T, +$

T

$E \rightarrow T \bullet, \$$
 $E \rightarrow T \bullet, +$

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1. $S \rightarrow E$
2. $E \rightarrow E + T$
3. $E \rightarrow T$
4. $T \rightarrow n$
5. $T \rightarrow (E)$

$S \rightarrow \bullet E, \$$
$E \rightarrow \bullet E + T, \$$
$E \rightarrow \bullet T, \$$
$E \rightarrow \bullet E + T, +$
$E \rightarrow \bullet T, +$
$T \rightarrow \bullet n, \$$
$T \rightarrow \bullet (E), \$$
$T \rightarrow \bullet n, +$
$T \rightarrow \bullet (E), +$

E

$S \rightarrow E \bullet, \$$
$E \rightarrow E \bullet + T, \$$
$E \rightarrow E \bullet + T, +$

T

$E \rightarrow T \bullet, \$$
$E \rightarrow T \bullet, +$

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$T \rightarrow n \bullet, \$$
$T \rightarrow n \bullet, +$

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1. $S \rightarrow E$
2. $E \rightarrow E + T$
3. $E \rightarrow T$
4. $T \rightarrow n$
5. $T \rightarrow (E)$

$S \rightarrow \bullet E, \$$
 $E \rightarrow \bullet E + T, \$$
 $E \rightarrow \bullet T, \$$
 $E \rightarrow \bullet E + T, +$
 $E \rightarrow \bullet T, +$
 $T \rightarrow \bullet n, \$$
 $T \rightarrow \bullet (E), \$$
 $T \rightarrow \bullet n, +$
 $T \rightarrow \bullet (E), +$

E

$S \rightarrow E \bullet, \$$
 $E \rightarrow E \bullet + T, \$$
 $E \rightarrow E \bullet + T, +$

T

$E \rightarrow T \bullet, \$$
 $E \rightarrow T \bullet, +$

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$T \rightarrow n \bullet, \$$
 $T \rightarrow n \bullet, +$

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$T \rightarrow (\bullet E), \$$
 $T \rightarrow (\bullet E), +$

1. $S \rightarrow E$
2. $E \rightarrow E + T$
3. $E \rightarrow T$
4. $T \rightarrow n$
5. $T \rightarrow (E)$

$S \rightarrow \bullet E, \$$
$E \rightarrow \bullet E + T, \$$
$E \rightarrow \bullet T, \$$
$E \rightarrow \bullet E + T, +$
$E \rightarrow \bullet T, +$
$T \rightarrow \bullet n, \$$
$T \rightarrow \bullet (E), \$$
$T \rightarrow \bullet n, +$
$T \rightarrow \bullet (E), +$

E

$S \rightarrow E \bullet, \$$
$E \rightarrow E \bullet + T, \$$
$E \rightarrow E \bullet + T, +$

T

$E \rightarrow T \bullet, \$$
$E \rightarrow T \bullet, +$

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$T \rightarrow n \bullet, \$$
$T \rightarrow n \bullet, +$

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$T \rightarrow (\bullet E), \$$
$T \rightarrow (\bullet E), +$
$E \rightarrow \bullet E + T,)$
$E \rightarrow \bullet T,)$

FIRST() \$) =)

1. $S \rightarrow E$
2. $E \rightarrow E + T$
3. $E \rightarrow T$
4. $T \rightarrow n$
5. $T \rightarrow (E)$

$S \rightarrow \bullet E, \$$
 $E \rightarrow \bullet E + T, \$$
 $E \rightarrow \bullet T, \$$
 $E \rightarrow \bullet E + T, +$
 $E \rightarrow \bullet T, +$
 $T \rightarrow \bullet n, \$$
 $T \rightarrow \bullet (E), \$$
 $T \rightarrow \bullet n, +$
 $T \rightarrow \bullet (E), +$

E

$S \rightarrow E \bullet, \$$
 $E \rightarrow E \bullet + T, \$$
 $E \rightarrow E \bullet + T, +$

T

$E \rightarrow T \bullet, \$$
 $E \rightarrow T \bullet, +$

n

$T \rightarrow n \bullet, \$$
 $T \rightarrow n \bullet, +$

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$T \rightarrow (\bullet E), \$$
 $T \rightarrow (\bullet E), +$
 $E \rightarrow \bullet E + T,)$
 $E \rightarrow \bullet T,)$

FIRST() +) =)

1. $S \rightarrow E$
2. $E \rightarrow E + T$
3. $E \rightarrow T$
4. $T \rightarrow n$
5. $T \rightarrow (E)$

$S \rightarrow \bullet E, \$$
 $E \rightarrow \bullet E + T, \$$
 $E \rightarrow \bullet T, \$$
 $E \rightarrow \bullet E + T, +$
 $E \rightarrow \bullet T, +$
 $T \rightarrow \bullet n, \$$
 $T \rightarrow \bullet (E), \$$
 $T \rightarrow \bullet n, +$
 $T \rightarrow \bullet (E), +$

E

$S \rightarrow E \bullet, \$$
 $E \rightarrow E \bullet + T, \$$
 $E \rightarrow E \bullet + T, +$

T

$E \rightarrow T \bullet, \$$
 $E \rightarrow T \bullet, +$

n

$T \rightarrow n \bullet, \$$
 $T \rightarrow n \bullet, +$

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$T \rightarrow (\bullet E), \$$
 $T \rightarrow (\bullet E), +$
 $E \rightarrow \bullet E + T,)$
 $E \rightarrow \bullet T,)$
 $E \rightarrow \bullet E + T, +$
 $E \rightarrow \bullet T, +$

FIRST(+T) = +

1. $S \rightarrow E$
2. $E \rightarrow E + T$
3. $E \rightarrow T$
4. $T \rightarrow n$
5. $T \rightarrow (E)$

$S \rightarrow \bullet E, \$$
 $E \rightarrow \bullet E + T, \$$
 $E \rightarrow \bullet T, \$$
 $E \rightarrow \bullet E + T, +$
 $E \rightarrow \bullet T, +$
 $T \rightarrow \bullet n, \$$
 $T \rightarrow \bullet (E), \$$
 $T \rightarrow \bullet n, +$
 $T \rightarrow \bullet (E), +$

E

$S \rightarrow E \bullet, \$$
 $E \rightarrow E \bullet + T, \$$
 $E \rightarrow E \bullet + T, +$

T

$E \rightarrow T \bullet, \$$
 $E \rightarrow T \bullet, +$

n

$T \rightarrow n \bullet, \$$
 $T \rightarrow n \bullet, +$

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$T \rightarrow (\bullet E), \$$
 $T \rightarrow (\bullet E), +$
 $E \rightarrow \bullet E + T,)$
 $E \rightarrow \bullet T,)$
 $E \rightarrow \bullet E + T, +$
 $E \rightarrow \bullet T, +$
 $T \rightarrow \bullet n,)$
 $T \rightarrow \bullet (E),)$

FIRST()) =)

1. $S \rightarrow E$
2. $E \rightarrow E + T$
3. $E \rightarrow T$
4. $T \rightarrow n$
5. $T \rightarrow (E)$

$S \rightarrow \bullet E, \$$
 $E \rightarrow \bullet E + T, \$$
 $E \rightarrow \bullet T, \$$
 $E \rightarrow \bullet E + T, +$
 $E \rightarrow \bullet T, +$
 $T \rightarrow \bullet n, \$$
 $T \rightarrow \bullet (E), \$$
 $T \rightarrow \bullet n, +$
 $T \rightarrow \bullet (E), +$

E

$S \rightarrow E \bullet, \$$
 $E \rightarrow E \bullet + T, \$$
 $E \rightarrow E \bullet + T, +$

T

$E \rightarrow T \bullet, \$$
 $E \rightarrow T \bullet, +$

n

$T \rightarrow n \bullet, \$$
 $T \rightarrow n \bullet, +$

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$T \rightarrow (\bullet E), \$$
 $T \rightarrow (\bullet E), +$
 $E \rightarrow \bullet E + T,)$
 $E \rightarrow \bullet T,)$
 $E \rightarrow \bullet E + T, +$
 $E \rightarrow \bullet T, +$
 $T \rightarrow \bullet n,)$
 $T \rightarrow \bullet (E),)$

FIRST(+T+) = +

1. $S \rightarrow E$
2. $E \rightarrow E + T$
3. $E \rightarrow T$
4. $T \rightarrow n$
5. $T \rightarrow (E)$

$S \rightarrow \bullet E, \$$
 $E \rightarrow \bullet E + T, \$$
 $E \rightarrow \bullet T, \$$
 $E \rightarrow \bullet E + T, +$
 $E \rightarrow \bullet T, +$
 $T \rightarrow \bullet n, \$$
 $T \rightarrow \bullet (E), \$$
 $T \rightarrow \bullet n, +$
 $T \rightarrow \bullet (E), +$

E

$S \rightarrow E \bullet, \$$
 $E \rightarrow E \bullet + T, \$$
 $E \rightarrow E \bullet + T, +$

T

$E \rightarrow T \bullet, \$$
 $E \rightarrow T \bullet, +$

n

$T \rightarrow n \bullet, \$$
 $T \rightarrow n \bullet, +$

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$T \rightarrow (\bullet E), \$$
 $T \rightarrow (\bullet E), +$
 $E \rightarrow \bullet E + T,)$
 $E \rightarrow \bullet T,)$
 $E \rightarrow \bullet E + T, +$
 $E \rightarrow \bullet T, +$
 $T \rightarrow \bullet n,)$
 $T \rightarrow \bullet (E),)$
 $T \rightarrow \bullet n, +$
 $T \rightarrow \bullet (E), +$

FIRST(+) = +

1. $S \rightarrow E$
2. $E \rightarrow E + T$
3. $E \rightarrow T$
4. $T \rightarrow n$
5. $T \rightarrow (E)$

$S \rightarrow \bullet E, \$$
 $E \rightarrow \bullet E + T, \$$
 $E \rightarrow \bullet T, \$$
 $E \rightarrow \bullet E + T, +$
 $E \rightarrow \bullet T, +$
 $T \rightarrow \bullet n, \$$
 $T \rightarrow \bullet (E), \$$
 $T \rightarrow \bullet n, +$
 $T \rightarrow \bullet (E), +$

E

$S \rightarrow E \bullet, \$$
 $E \rightarrow E \bullet + T, \$$
 $E \rightarrow E \bullet + T, +$

T

$E \rightarrow T \bullet, \$$
 $E \rightarrow T \bullet, +$

n

$T \rightarrow n \bullet, \$$
 $T \rightarrow n \bullet, +$

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$T \rightarrow (\bullet E), \$$
 $T \rightarrow (\bullet E), +$
 $E \rightarrow \bullet E + T,)$
 $E \rightarrow \bullet T,)$
 $E \rightarrow \bullet E + T, +$
 $E \rightarrow \bullet T, +$
 $T \rightarrow \bullet n,)$
 $T \rightarrow \bullet (E),)$
 $T \rightarrow \bullet n, +$
 $T \rightarrow \bullet (E), +$

■ ■ ■

Source: <http://smlweb.cpsc.ucalgary.ca>

