

## Project Report

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### Example-1:

$E \rightarrow T E'$

$E' \rightarrow + T E' \mid \epsilon$

$T \rightarrow F T'$

$T' \rightarrow * F T' \mid \epsilon$

$F \rightarrow id \mid ( E )$

Enter Grammar

```
E -> T E'
E' -> + T E' | ε
T -> F T'
T' -> * F T' | ε
F -> id | ( E )
```

Parse

### First Set

Non-Terminal	FIRST Set
E	id, (
E'	+, ε
T	id, (
T'	*, ε
F	id, (

### Follow Set

Non-Terminal	FOLLOW Set
E	\$, )
E'	\$, )
T	+, \$, )
T'	+, \$, )
F	*, +, \$, )

### Parsing Table

Non-Terminal	Terminal	Production
E	id	T E'
E	(	T E'
E'	+	+ T E'
E'	$\epsilon$	$\epsilon$
T	id	F T'
T	(	F T'
T'	*	* F T'
T'	$\epsilon$	$\epsilon$
F	id	id
F	(	( E )

### Example-2:

S  $\rightarrow$  a A B b

$A \rightarrow c \mid \epsilon$

$B \rightarrow d \mid \epsilon$

Enter Grammar

$S \rightarrow a A B b$   
 $A \rightarrow c \mid \epsilon$   
 $B \rightarrow d \mid \epsilon$

Parse

### First Set

Non-Terminal	FIRST Set
S	a
A	c, $\epsilon$
B	d, $\epsilon$

### Follow Set

Non-Terminal	FOLLOW Set
S	\$
A	d, b
B	b

### Parsing Table

Non-Terminal	Terminal	Production
S	a	$a A B b$
A	c	c
A	$\epsilon$	$\epsilon$
B	d	d
B	$\epsilon$	$\epsilon$

### Example-3:

$S \rightarrow AA$

$A \rightarrow aA \mid b$

$S \rightarrow A A$   
 $A \rightarrow a A \mid b$

Parse

### First Set

Non-Terminal	FIRST Set
S	a, b
A	a, b

### Follow Set

Non-Terminal	FOLLOW Set
S	\$
A	a, b, \$

### Parsing Table

Non-Terminal	Terminal	Production
S	a	AA
S	b	AA
A	a	aA
A	b	b