FIRST AND FOLLOW

AIM: To write a program to perform first and follow using any language.

ALGORITHM:

For computing the first:

1. If X is a terminal then FIRST(X) = {X}

Example: F -> I | id

We can write it as FIRST(F) -> { (, id)

2. If X is a non-terminal like E -> T then to get FIRSTI substitute T with other productions until you get a terminal as the first symbol

3. If X -> ε then add ε to FIRST(X).

For computing the follow:

1. Always check the right side of the productions for a non-terminal, whose FOLLOW set is being found. (never see the left side).

2. (a) If that non-terminal (S,A,B…) is followed by any terminal (a,b…,*,+,(,)…) , then add that terminal into the FOLLOW set.

(b) If that non-terminal is followed by any other non-terminal then add FIRST of other nonterminal into the FOLLOW set.

OUTPUT:

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First(E) = { (, i, }

First(R) = { +, #, }

First(T) = { (, i, }

First(Y) = { *, #, }

First(F) = { (, i, }

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Follow(E) = { $, ),  }

Follow(R) = { $, ),  }

Follow(T) = { +, $, ),  }

Follow(Y) = { +, $, ),  }

Follow(F) = { *, +, $, ),  }
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