**FIRST AND FOLLOW**

import java.util.\*;

import java.io.\*;

public class firstfollow

{

public static void main(String args[])

{

System.out.println("In given grammer 'e' stands for epsilon production:");

String left[]={"E","A","T","B","F"};

String right[]={"TA/e","+TA/e","FB/e","\*FB/e","(E)/i"};

String right1[][]=new String[10][3];

for(int i = 0; i < right.length ;i++)

{

right1[i]=right[i].split("/");

}

for(int i = 0; i < right.length ;i++)

{

for(int j = 0; j < right1[i].length ;j++)

{

System.out.print("\t"+right1[i][j]);

}

System.out.print("\n ");

}

String first[][]= new String[right.length][2];

for(int i = 0; i < right.length ;i++)

{

int k = i;

for( int j = 0; j < right1[k].length ;j++)

{

if(right1[k][j].charAt(0)< 'A' || right1[k][j].charAt(0) >'Z')

{

first[i][j]=""+right1[k][j].charAt(0);

}

else if(right1[k][j].charAt(0)=='e')

{

first[i][j]="e";

}

else

{

for(int h = 0; h < left.length ; h++ )

{

if(left[h].charAt(0)==(right1[k][j].charAt(0)))

{

k = h;

j =-1;

break;

}

}

}

}

}

System.out.print("\nFirst");

for(int i = 0; i < first.length ;i++)

{

System.out.print("\n");

for(int j = 0; j < first[i].length ;j++)

{

System.out.print(" "+first[i][j]);

}

}

String follow[][]= new String[10][20];

int fcount[]= new int[10];

follow[0][0]="$";

fcount[0]=1;

for(int i = 0; i < left.length ;i++)

{

if(i>0)

{

fcount[i]=0;

}

System.out.print("\n");

for( int j = 0; j < right.length ;j++)

{

for( int h = 0; h < right1[j].length ;h++)

{

if(right1[j][h].contains(left[i]))

{

int B = right1[j][h].indexOf(left[i]);

String a =right1[j][h].substring(0, B);

String b =right1[j][h].substring(B+1,right1[j][h].length());

if(b.isEmpty())

{

for(int k = 0; k < fcount[j] && j!= i ;k++)

{ follow[i][fcount[i]++]= follow[j][k];

}

}

else

{ if((int)b.charAt(0)>='A'&& (int)b.charAt(0)<='Z')

{

for(int k = 0; k < left.length ;k++)

{

if(left[k].equalsIgnoreCase(b))

{

for(int m = 0; m < first[k].length ;m++)

{

if(first[k][m].equalsIgnoreCase("e"))

{

}

else

{

follow[i][fcount[i]++]=first[k][m];

}

}

break;

}

}

for(int k = 0; k < fcount[j] && j!= i;k++)

{

follow[i][fcount[i]++]= follow[j][k];

}

}

else

{

follow[i][fcount[i]++]=b;

}

}

}

}

}

}

System.out.print("\nFOLLOW");

for(int i = 0; i < left.length ;i++)

{

System.out.print("\n");

for(int j = 0; j < fcount[i] ;j++)

{

System.out.print(" "+follow[i][j]);

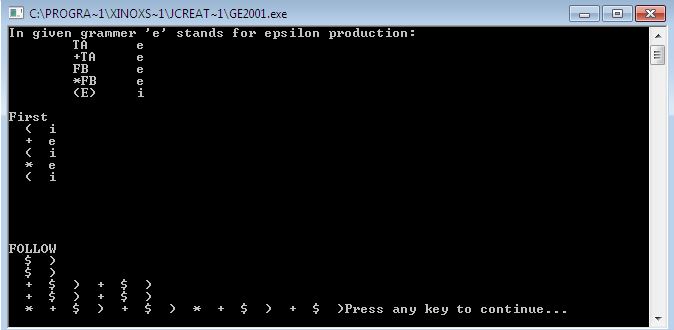
}

}

}

}

**OUTPUT**

****