

S -> <PKG> <CLASS>

<PKG> -> <PALRE> <ID> <OPESP>

<CLASS> -> <PALRE> <ID> <OPESP>

NUM -> 5<OPESP> | 1<OPESP> | 2<OPESP> | 3 | 0<OPESP> | 5 | 10(<OPESP><ID>) | 20(<OPESP><ID>) | 30(<OPESP><ID>) | 40(<OPESP><ID>) | 50(<OPESP><ID>) |

<ID> -> <ID><OPESP> | Array_project | main<OPESP> | arr(<OPESP><PALRE><OPESP>)| arr(<OPESP>| <OPESP><VARIARR>) | arr<OPASIG> | i | i<OPASIG> | <OPIND> | i<OPREL><ID> | args | ?
| arr | <PARLE> | <ID><OPIND>

<OPESP> -> [|] |) | (| DPU | DEL | . | { | } | " | <OPESP><OPESP> | <OPESP> <ID> <OPESP> | <OPESP>NUM | <OPESP><PALRE><OPESP> |<ID> <OPESP> | < OPESP><PALRE>
|<OPASIG><PALRE>|<OPESP><ID> | <OPASIG>NUM | <OPESP><PALRE>| DEL <ID> | String | ><OPESP><OPARI>| ID | ?

<PALRE> -> class | package | public | for | static | void | int | <PALRE><PALRE> | String | new | println<OPESP> | <PALRE><OPESP> | <OPESP> <NUM> <OPESP> |<OPESP><PALRE> | <ID> |
length

String -> <MSG> | Elemento en el índice<OPESP>

<OPASIG> -> = NUM | = |

<OPIND> -> ++<OPESP>

<OPARI> -> + | <OPARI> <ID> <OPARI>| <OPARI><OPESP>| <OPARI> <ID>

<OPREL> -> <

<S>

<PKG><CLASS>

<PALRE> <ID> <OPESP><CLASS>

package Array_project <OPESP><CLASS>

package Array_project DEL <CLASS>

package Array_project DEL

<PALRE> <ID> <OPESP>

<PALRE><PALRE> <ID> <OPESP>

public <PALRE> <ID> <OPESP>

public <PALRE><PALRE> <ID> <OPESP>

public static void <ID> <OPESP>

public static void main<OPESP> <OPESP>

public static void main<OPESP><PALRE><OPESP>

public static void main(<ID> <OPESP>

public static void main(String <OPESP><OPESP>

public static void main(String [<OPESP><OPESP>

public static void main(String [] <OPESP>

public static void main(String [] <ID> <OPESP>

public static void main(String [] args <OPESP>

public static void main(String [] args <OPESP><OPESP>

public static void main(String [] args)<OPESP>

public static void main(String [] args)< OPESP><PALRE>

public static void main(String [] args){<PALRE>

<PALRE><OPESP>

int <OPESP>

int<OPESP><OPESP>

int[<OPESP><OPESP>

int[]<OPESP>

int [] <ID> <OPESP>

int [] arr <OPESP>

int [] arr <OPESP><OPESP>

int [] arr DEL <OPESP>

<OPESP>

<ID><OPESP>

arr <OPESP>

arr<OPASIG><PALRE>

arr = <PALRE>

arr = <PALRE><PALRE>

arr = new <PALRE>

arr = new <PALRE><OPESP>

arr = new int<OPESP>

arr = new int<OPESP>NUM

int = new int [5<OPESP>

int = new int [5<OPESP><OPESP>

int = new int [5]<OPESP>

int = new int [5] <OPESP><ID>

int = new int [5] DEL <ID>

<ID>

<ID><OPESP>

arr<OPESP>

arr <OPESP>NUM

arr [NUM

arr [0<OPESP>

arr [0<OPESP><OPESP>

arr[0]<OPESP>

arr [0] <OPASIG>NUM

arr [0] = NUM

arr [0] = 10(<OPESP><ID>)

arr [0] = 10 DEL<ID>

<ID>

<ID><OPESP>

arr<OPESP>

arr<OPESP>NUM

arr [NUM

arr[1<OPESP>

arr[1<OPESP><OPESP>

arr[1]<OPESP>

arr{1}<OPASIG>NUM

arr{1}=NUM

arr[1]=20(<OPESP><ID>)

arr{1}=20D DEL <ID>

<ID>

<ID><OPESP>

arr<OPESP>

arr<OPESP>NUM

arr[NUM

arr[2<OPESP>

arr[2<OPESP><OPESP>

arr{2}<OPESP>

arr[2]<OPASIG>NUM

arr{2}=NUM

arr[2]=30(<OPESP><ID>)

arr{2}=30 DEL <ID>

<ID>

<ID><OPESP>

arr<OPESP>

arr<OPESP>NUM

arr[NUM

arr[3<OPESP>

arr[3<OPESP><OPESP>

arr[3]<OPESP>

arr[3]<OPASIG>NUM

arr[3]=NUM

arr[3]=40(<OPESP><ID>)

arr{3}=40 DEL <ID>

<ID>

<ID><OPESP>

arr<OPESP>

arr<OPESP>NUM

arr[NUM

arr[4<OPESP>

arr[4<OPESP><OPESP>

arr[4]<OPESP>

arr[4]<OPASIG>NUM

arr[4]=NUM

arr[4]=50(<OPESP><ID>)

arr{4}=50 DEL <ID>

<PARLE>

<PALRE><PALRE>

for<PALRE>

for<OPESP><PALRE>

for(<PALRE>

```
for(<PALRE><PALRE>

for( int <PALRE>

for ( int <ID>

for (int i<OPASIG>

for (int i = NUM

for (int i = 0<OPESP>

for (int i = 0 <OPESP><OPESP>

for (int i= 0 DEL <OPESP>

for ( int i= 0 DEL i<OPREL><ID>

for ( int i = 0 DEL i < <ID><OPESP>

for ( int i=0 DEL i < arr <OPESP>

for ( int i=0 DEL i < arr <OPESP><PALRE>

for( int i=0 DEL i < arr.length<OPESP>

for( int i=0 DEL i < arr.length DEL <ID>

for ( int i=0 DEL i < arr.length DEL <ID><OPIND>

for ( int i=0 DEL i < arr.length DEL i <OPIND>

for ( int i=0 DEL i < arr.length DEL i ++<OPESP>

for ( int i =0 DEL i < arr.length DEL i ++)<PALRE>


<PALRE>

println<OPESP>

println <OPESP><OPESP>

println (<OPESP><OPESP>
```

```
println("<OPESP>

println(" Elemento en el índice<OPESP>

println(" Elemento en el índice"<OPARI>

println(" Elemento en el índice" + <ID> <OPARI>

println(" Elemento en el índice" + i <OPARI>

println(" Elemento en el índice" + i <OPARI><OPESP>

println(" Elemento en el índice" + i + <OPESP>

println(" Elemento en el índice" + i + <OPESP><OPESP>

println(" Elemento en el índice" + i + "<OPESP><OPESP>

println(" Elemento en el índice" + i + " DPU <OPESP>

println(" Elemento en el índice" + i + " DPU <OPESP><OPARI>

println(" Elemento en el índice" + i + " DPU " <OPARI>

println(" Elemento en el índice" + i + " DPU "<OPARI> <ID>

println(" Elemento en el índice" + i + " DPU " + <ID>

println(" Elemento en el índice" + i + " DPU " + <ID> <OPESP>

println(" Elemento en el índice" + i + " DPU " + arr <OPESP>

println(" Elemento en el índice" + i + " DPU " + arr <OPESP> <ID> <OPESP>

println(" Elemento en el índice" + i + " DPU " + arr [ <ID> <OPESP>

println(" Elemento en el índice" + i + " DPU " + arr [i<OPESP>

println(" Elemento en el índice" + i + " DPU " + arr [i <OPESP><OPESP>

println(" Elemento en el índice" + i + " DPU " + arr [i] <OPESP>

println(" Elemento en el índice" + i + " DPU " + arr [i] <OPESP><OPESP>

println(" Elemento en el índice" + i + " DPU " + arr [i]) <OPESP>
```


println(" Elemento en el índice" + i + " DPU " + arr [i]) <OPESP><OPESP>

println(" Elemento en el índice" + i + " DPU " + arr [i]) DEL <OPESP>

OPESP

<OPESP><OPESP>

}<OPESP>

<OPESP>

}<OPESP>

}

S -> <PKG> <CLASS>

<PKG> -> <PALRE> <ID> <OPESP>

<CLASS> -> <PALRE> <ID> <OPESP>

NUM -> 5<OPESP> | 1<OPESP> | 2<OPESP> | 3 | 0<OPESP> | 5 | 10(<OPESP><ID>) | 20(<OPESP><ID>) | 30(<OPESP><ID>) | 40(<OPESP><ID>) | 50(<OPESP><ID>) |

<ID> -> <ID><OPESP> | Array_project | main<OPESP> | arr(<OPESP><PALRE><OPESP>)| arr(<OPESP>| <OPESP><VARIARR>) | arr<OPASIG> | i | i<OPASIG> | <OPIND> | i<OPREL><ID> | args | [?](#)
| arr | <PARLE> | <ID><OPIND>

<OPESP> -> [] | (| DPU | DEL | . | { | } | " | <OPESP><OPESP> | <OPESP> <ID> <OPESP> | <OPESP>NUM | <OPESP><PALRE><OPESP> |<ID> <OPESP> | < OPESP><PALRE>
|<OPASIG><PALRE>|<OPESP><ID> | <OPASIG>NUM | <OPESP><PALRE>| DEL <ID> | String | ><OPESP><OPARI>| ID | [?](#)

<PALRE> -> class | package | public | for | static | void | int | <PALRE><PALRE> | String | new | println<OPESP> | <PALRE><OPESP> | <OPESP> <NUM> <OPESP> |<OPESP><PALRE> | <ID> |
length

String -> <MSG> | Elemento en el índice<OPESP>

<OPASIG> -> = NUM | = |

<OPIND> -> ++<OPESP>

<OPARI> -> + | <OPARI> <ID> <OPARI>| <OPARI><OPESP>| <OPARI> <ID>

<OPREL> -> <

Primer caso, Valido

```
package UNPA.WinForms.Compiladores;
```

```
public class Array_Project{
```

```
    public static void main(String[] args){
```

```
        int[]jarr;
```

```
        arr=new int[5];
```

```
        arr[0]=10;
```

```
        arr[1]=20;
```

```
        arr[2]=30;
```

```
        arr[3]=40;
```

```
        arr[4]=50;
```

```
        for(int i = 0; i < arr.lenght; i++)
```

```
            System.out.println("Elemento en el indice" + i + " : "+ arr[i]));
```

```
    }
```

```
}
```

<S>

<PKG><CLASS>

<PALRE> <ID> <OPESP><CLASS>

package Array_project <OPESP><CLASS>

package Array_project DEL <CLASS>

package Array_project DEL

<PALRE> <ID> <OPESP>

<PALRE><PALRE> <ID> <OPESP>

public <PALRE> <ID> <OPESP>

public <PALRE><PALRE> <ID> <OPESP>

public static void <ID> <OPESP>

public static void main<OPESP> <OPESP>

public static void main<OPESP><PALRE><OPESP>

public static void main(<ID> <OPESP>

public static void main(String <OPESP><OPESP>

public static void main(String [<OPESP><OPESP>

public static void main(String [] <OPESP>

public static void main(String [] <ID> <OPESP>

public static void main(String [] args <OPESP>

public static void main(String [] args <OPESP><OPESP>

public static void main(String [] args)<OPESP>

public static void main(String [] args)< OPESP><PALRE>

```
public static void main( String [] args ){<PALRE>
```

```
<PALRE><OPESP>
```

```
int <OPESP>
```

```
int<OPESP><OPESP>
```

```
int[<OPESP><OPESP>
```

```
int[]<OPESP>
```

```
int [] <ID> <OPESP>
```

```
int [] arr <OPESP>
```

```
int [] arr <OPESP><OPESP>
```

```
int [] arr DEL <OPESP>
```

```
<OPESP>
```

```
<ID><OPESP>
```

```
arr <OPESP>
```

```
arr<OPASIG><PALRE>
```

```
arr = <PALRE>
```

```
arr = <PALRE><PALRE>
```

```
arr = new <PALRE>
```

```
arr = new <PALRE><OPESP>
```

```
arr = new int<OPESP>
```

```
arr = new int<OPESP>NUM
```

```
int = new int [5<OPESP>
```

int = new int [5<OPESP><OPESP>

int = new int [5]<OPESP>

int = new int [5] <OPESP><ID>

int = new int [5] DEL <ID>

<ID>

<ID><OPESP>

arr<OPESP>

arr <OPESP>NUM

arr [NUM

arr [0<OPESP>

arr [0<OPESP><OPESP>

arr[0]<OPESP>

arr [0] <OPASIG>NUM

arr [0] = NUM

arr [0] = 10(<OPESP><ID>)

arr [0] = 10 DEL<ID>

<ID>

<ID><OPESP>

arr<OPESP>

arr<OPESP>NUM

arr [NUM

arr[1<OPESP>

arr[1<OPESP><OPESP>

arr[1]<OPESP>

arr{1}<OPASIG>NUM

arr{1}=NUM

arr[1]=20(<OPESP><ID>)

arr{1}=20D DEL <ID>

<ID>

<ID><OPESP>

arr<OPESP>

arr<OPESP>NUM

arr[NUM

arr[2<OPESP>

arr[2<OPESP><OPESP>

arr{2}<OPESP>

arr[2]<OPASIG>NUM

arr{2}=NUM

arr[2]=30(<OPESP><ID>)

arr{2}=30 DEL <ID>

<ID>

<ID><OPESP>

arr<OPESP>

arr<OPESP>NUM

arr[NUM

arr[3<OPESP>

arr[3<OPESP><OPESP>

arr[3]<OPESP>

arr[3]<OPASIG>NUM

arr[3]=NUM

arr[3]=40(<OPESP><ID>)

arr{3}=40 DEL <ID>

<ID>

<ID><OPESP>

arr<OPESP>

arr<OPESP>NUM

arr[NUM

arr[4<OPESP>

arr[4<OPESP><OPESP>

arr[4]<OPESP>

arr[4]<OPASIG>NUM

arr[4]=NUM

arr[4]=50(<OPESP><ID>)

arr{4}=50 DEL <ID>

<PARLE>

<PALRE><PALRE>

for<PALRE>

for<OPESP><PALRE>

for(<PALRE>

for(<PALRE><PALRE>

for(int <PALRE>

for (int <ID>

for (int i<OPASIG>

for (int i = NUM

for (int i = 0<OPESP>

for (int i = 0 <OPESP><OPESP>

for (int i= 0 DEL <OPESP>

for (int i= 0 DEL i<OPREL><ID>

for (int i = 0 DEL i < <ID><OPESP>

for (int i=0 DEL i < arr <OPESP>

for (int i=0 DEL i < arr <OPESP><PALRE>

for(int i=0 DEL i < arr.length<OPESP>

for(int i=0 DEL i < arr.length DEL <ID>

for (int i=0 DEL i < arr.length DEL <ID><OPIND>

for (int i=0 DEL i < arr.length DEL i <OPIND>

for (int i =0 DEL i < arr.length DEL i ++<OPESP>


```
for ( int i =0 DEL i < arr.length DEL i ++)<PALRE>
```

```
<PALRE>
```

```
println<OPESP>
```

```
println <OPESP><OPESP>
```

```
println (<OPESP><OPESP>
```

```
println ("<OPESP>
```

```
println(" Elemento en el índice<OPESP>
```

```
println(" Elemento en el índice"<OPARI>
```

```
println(" Elemento en el índice" + <ID> <OPARI>
```

```
println(" Elemento en el índice" + i <OPARI>
```

```
println(" Elemento en el índice" + i <OPARI><OPESP>
```

```
println(" Elemento en el índice" + i + <OPESP>
```

```
println(" Elemento en el índice" + i + <OPESP><OPESP>
```

```
println(" Elemento en el índice" + i + "<OPESP><OPESP>
```

```
println(" Elemento en el índice" + i + " DPU <OPESP>
```

```
println(" Elemento en el índice" + i + " DPU <OPESP><OPARI>
```

```
println(" Elemento en el índice" + i + " DPU " <OPARI>
```

```
println(" Elemento en el índice" + i + " DPU "<OPARI> <ID>
```

```
println(" Elemento en el índice" + i + " DPU " + <ID>
```

```
println(" Elemento en el índice" + i + " DPU " + <ID> <OPESP>
```

```
println(" Elemento en el índice" + i + " DPU " + arr <OPESP>
```

```
println(" Elemento en el índice" + i + " DPU " + arr <OPESP> <ID> <OPESP>
```

```

println(" Elemento en el índice" + i + " DPU " + arr [ <ID> <OPESP>

println(" Elemento en el índice" + i + " DPU " + arr [i<OPESP>

println(" Elemento en el índice" + i + " DPU " + arr [i <OPESP><OPESP>

println(" Elemento en el índice" + i + " DPU " + arr [i] <OPESP>

println(" Elemento en el índice" + i + " DPU " + arr [i] <OPESP><OPESP>

println(" Elemento en el índice" + i + " DPU " + arr [i] <OPESP>

println(" Elemento en el índice" + i + " DPU " + arr [i] <OPESP><OPESP>

println(" Elemento en el índice" + i + " DPU " + arr [i] DEL <OPESP>

OPESP

<OPESP><OPESP>

}<OPESP>

<OPESP>

}<OPESP>

}

```

Codigo Invalido

```

package UNPA.WinForms.Compiladores;

public class Array_Project{

    public static void main(String[] args){

        int[]arr;

        arr=new int[5];

        arr[0]=10;
    }
}

```

```

arr[1]=20;

arr[2]=30;

arr[3]=40;

arr[4]=50;

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

    System.out.println("Elemento en el indice" + i + " : " + arr[i]);

}

}

```

<S>

<PKG><CLASS>

<PALRE> <ID> <OPESP><CLASS>

package Array_project <OPESP><CLASS>

package Array_project DEL <CLASS>

package Array_project DEL

<PALRE> <ID> <OPESP>

<PALRE><PALRE> <ID> <OPESP>

public <PALRE> <ID> <OPESP>

public <PALRE><PALRE> <ID> <OPESP>

public static void <ID> <OPESP>

public static void main<OPESP> <OPESP>

public static void main<OPESP><PALRE><OPESP>

public static void main(<ID> <OPESP>

public static void main(String <OPESP><OPESP>

public static void main(String [<OPESP><OPESP>

public static void main(String [] <OPESP>

public static void main(String [] <ID> <OPESP>

public static void main(String [] args <OPESP>

public static void main(String [] args <OPESP><OPESP>

public static void main(String [] args)<OPESP>

public static void main(String [] args)< OPESP><PALRE>

public static void main(String [] args){<PALRE>

<PALRE><OPESP>

int <OPESP>

int<OPESP><OPESP>

int[<OPESP><OPESP>

int[]<OPESP>

int [] <ID> <OPESP>

int [] arr <OPESP>

int [] arr <OPESP><OPESP>

int [] arr DEL <OPESP>

<OPESP>

<ID><OPESP>

arr <OPESP>

arr<OPASIG><PALRE>

arr = <PALRE>

arr = <PALRE><PALRE>

arr = new <PALRE>

arr = new <PALRE><OPESP>

arr = new int<OPESP>

arr = new int<OPESP>NUM

int = new int [5<OPESP>

int = new int [5<OPESP><OPESP>

int = new int [5]<OPESP>

int = new int [5] <OPESP><ID>

int = new int [5] DEL <ID>

<ID>

<ID><OPESP>

arr<OPESP>

arr <OPESP>NUM

arr [NUM

arr [0<OPESP>

arr [0<OPESP><OPESP>

arr[0]<OPESP>

arr [0] <OPASIG>NUM

arr [0] = NUM

arr [0] = 10(<OPESP><ID>)

arr [0] = 10 DEL<ID>

<ID>

<ID><OPESP>

arr<OPESP>

arr<OPESP>NUM

arr [NUM

arr[1<OPESP>

arr[1<OPESP><OPESP>

arr[1]<OPESP>

arr{1}<OPASIG>NUM

arr{1}=NUM

arr[1]=20(<OPESP><ID>)

arr{1}=20D DEL <ID>

<ID>

<ID><OPESP>

arr<OPESP>

arr<OPESP>NUM

arr[NUM

arr[2<OPESP>

arr[2<OPESP><OPESP>

arr{2}<OPESP>

arr[2]<OPASIG>NUM

arr{2}=NUM

arr[2]=30(<OPESP><ID>)

arr{2}=30 DEL <ID>

<ID>

<ID><OPESP>

arr<OPESP>

arr<OPESP>NUM

arr[NUM

arr[3<OPESP>

arr[3<OPESP><OPESP>

arr[3]<OPESP>

arr[3]<OPASIG>NUM

arr[3]=NUM

arr[3]=40(<OPESP><ID>)

arr{3}=40 DEL <ID>

<ID>

<ID><OPESP>

arr<OPESP>

arr<OPESP>NUM

arr[NUM

arr[4<OPESP>

arr[4<OPESP><OPESP>

arr[4]<OPESP>

arr[4]<OPASIG>NUM

arr[4]=NUM

arr[4]=50(<OPESP><ID>)

arr{4}=50 DEL <ID>

<PARLE>

<PALRE><PALRE>

for<PALRE>

for<OPESP><PALRE>

for(<PALRE>

for(<PALRE><PALRE>

for(int <PALRE>

for (int <ID>

for (int i<OPASIG>

for (int i = NUM

for (int i = 0<OPESP>

for (int i = 0 <OPESP><OPESP>

for (int i= 0 DEL <OPESP>

for (int i= 0 DEL i<OPREL><ID>//Debido a que aquí lo que necesita es el < y el que tiene es el > y no está disponible en la gramativa//

package UNPA.WinForms.Compiladores;

public class Array_Project{

public static void main(String[] args){

int[]arr;

arr=new int[6];

arr[0]=10;

arr[1]=20;

arr[2]=30;

arr[3]=40;

arr[4]=50;

for(int i = 0; i > arr.lenght; i++)

System.out.println("Elemento en el indice" + i + " : "+ arr[i]));

}

}

<S>

<PKG><CLASS>

<PALRE> <ID> <OPESP><CLASS>

package Array_project <OPESP><CLASS>

package Array_project DEL <CLASS>

package Array_project DEL

<PALRE> <ID> <OPESP>

<PALRE><PALRE> <ID> <OPESP>

public <PALRE> <ID> <OPESP>

public <PALRE><PALRE> <ID> <OPESP>

public static void <ID> <OPESP>

public static void main<OPESP> <OPESP>

public static void main<OPESP><PALRE><OPESP>

public static void main(<ID> <OPESP>

public static void main(String <OPESP><OPESP>

public static void main(String [<OPESP><OPESP>

public static void main(String [] <OPESP>

public static void main(String [] <ID> <OPESP>

public static void main(String [] args <OPESP>

public static void main(String [] args <OPESP><OPESP>

public static void main(String [] args)<OPESP>

public static void main(String [] args)< OPESP><PALRE>

public static void main(String [] args){<PALRE>

<PALRE><OPESP>

int <OPESP>

int<OPESP><OPESP>

int[<OPESP><OPESP>

int[]<OPESP>

int [] <ID> <OPESP>

int [] arr <OPESP>

int [] arr <OPESP><OPESP>

int [] arr DEL <OPESP>

<OPESP>

<ID><OPESP>

arr <OPESP>

arr<OPASIG><PALRE>

arr = <PALRE>

arr = <PALRE><PALRE>

arr = new <PALRE>

arr = new <PALRE><OPESP>

arr = new int<OPESP>

arr = new int<OPESP>NUM//Debido a que el 6 no esta disponible en la gramática, entonces el código es invalido//