CN4001/ CD4001
Software Development
Topic 5: Programming with Loops
Part 2c

The **body** of the loop

Activity

```
for  (   int i = 1      ;      i <= 3          ;       i ++           )
{
      System.out.println("First line");
      System.out.println("Second line");
}
```

What is the output from this program?

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Activity

```
for ( int i = 1 ; i <= 3 ; i ++ )
{
    System.out.println("First line");
    System.out.println("Second line");
}
```

```
First line
Second line
First line
Second line
First line
Second line
```

Activity

```
for  (   int i = 1      ;       i <= 10       ;        i ++          )
{

      System.out.println( i );

}
```

What is the output from this program?

Activity

```
for  (   int i = 1       ;       i <= 10       ;       i ++        )
{

    System.out.println( i );

}
```

```
1
2
3
4
5
6
7
8
9
10
```

Activity

```
for  (   int i = 1      ;       i <= 10       ;        i ++           )
{

     System.out.println( i*i );

}
```

What is the output from this program?

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Activity

```
for  (   int i = 1      ;       i <= 10        ;        i ++            )
{

    System.out.println( i*i );

}
```

```
1
4
9
16
25
36
49
64
81
100
```

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Activity

```
for  (   int i = 10    ;      i >= 1         ;        i = i -1       )
{

      System.out.println( i );

}
```

Activity

```
for  (   int i = 10    ;      i >= 1          ;        i --              )
{

      System.out.println( i );

}
```

What is the output from this program?

Activity

```
for  (   int i = 10    ;      i >= 1        ;       i --           )
{

    System.out.println( i );

}
```
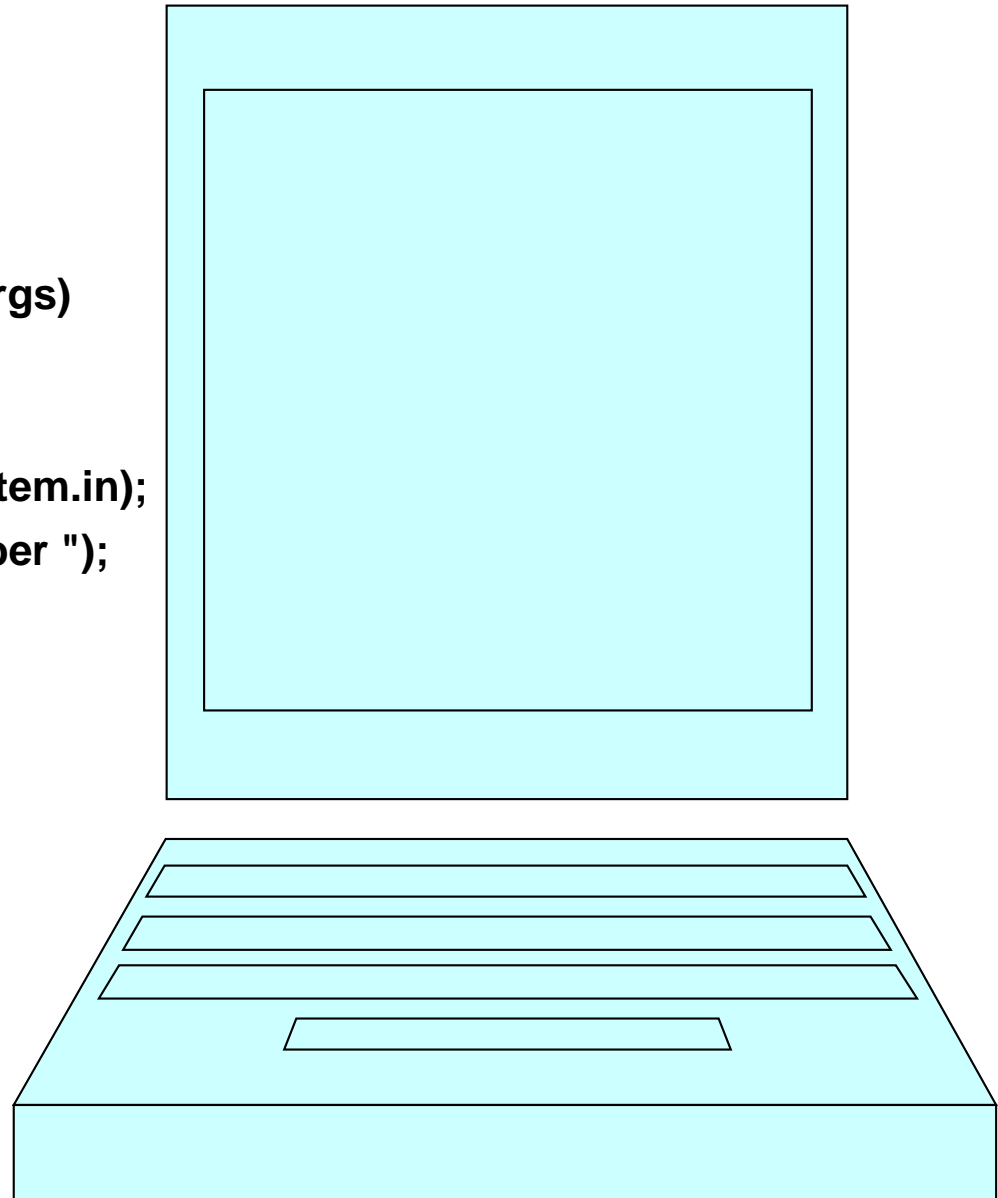
```
10
9
8
7
6
5
4
3
2
1
```

Activity

```
for  (   int i = 10     ;       i >= 1          ;        i --              )
{
    if ( i > 5 )
    {

        System.out.println( i );

    }
}
```

What is the output from this program?

Activity

```
for  (   int i = 10    ;      i >= 1         ;       i --              )
{
    if ( i > 5 )
    {
        System.out.println( i );
    }
}
```

```
10
9
8
7
6
```

```java
import java.util.*;
public class Iteration
{
    public static void main(String[] args)
    {
        int num;
        Scanner kb = new Scanner(System.in);
        System.out.print("Enter a number ");
        num = kb.nextInt();
        for (int i= 1; i< num; i++)
        {
            System.out.println("YES");
            System.out.println("NO");
        }
        System.out.println("OK");
    }
}
```

What is the output of this program if the user enters 5 when prompted?

```java
import java.util.*;
public class Iteration
{
  public static void main(String[] args)
  {
    int num;
    Scanner kb = new Scanner(System.in);
    System.out.print("Enter a number ");
    num = kb.nextInt();
    for (int i= 1; i< num; i++)
    {
      System.out.println("YES");
      System.out.println("NO");
    }
    System.out.println("OK");
  }
}
```
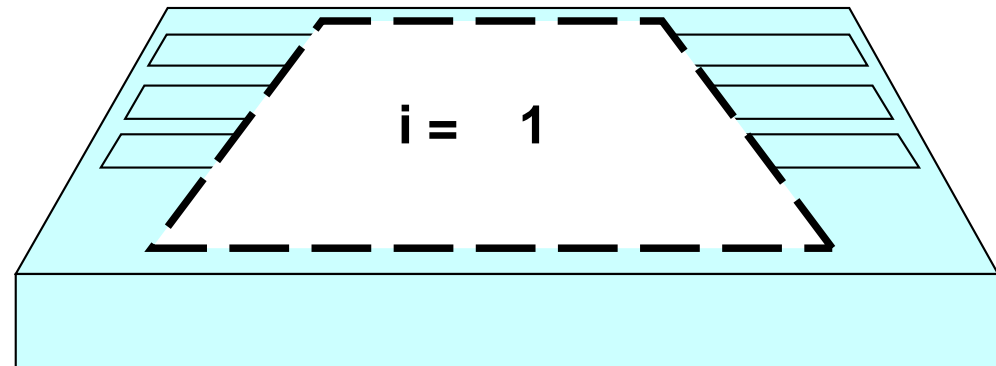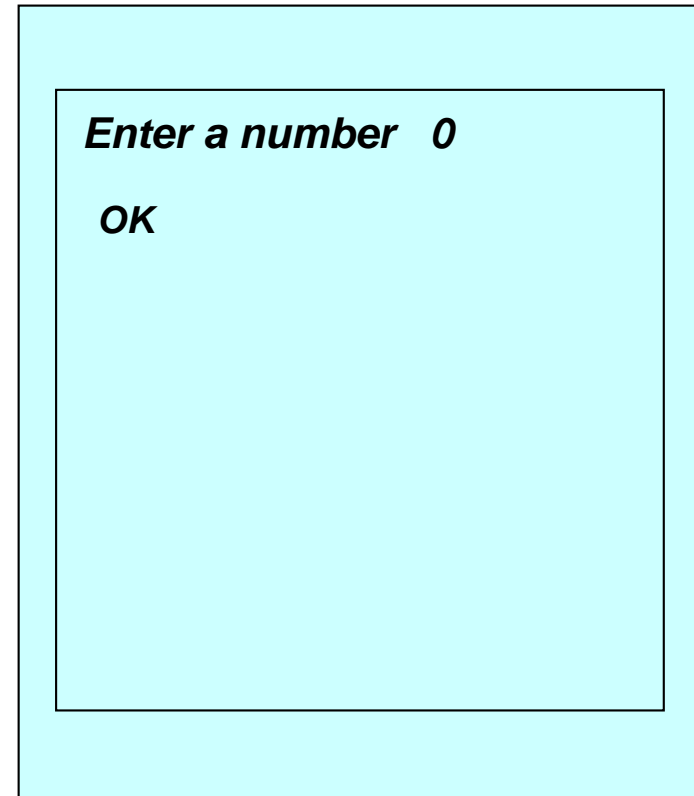
Topic 5 part 2c

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```java
import java.util.*;
public class Iteration
{
  public static void main(String[] args)
  {
    int num;
    Scanner kb = new Scanner(System.in);
    System.out.print("Enter a number ");
    num = kb.nextInt();
    for (int i= 1; i< num; i++)

    {
      System.out.println("YES");
      System.out.println("NO");
    }
    System.out.println("OK");
  }
}
```
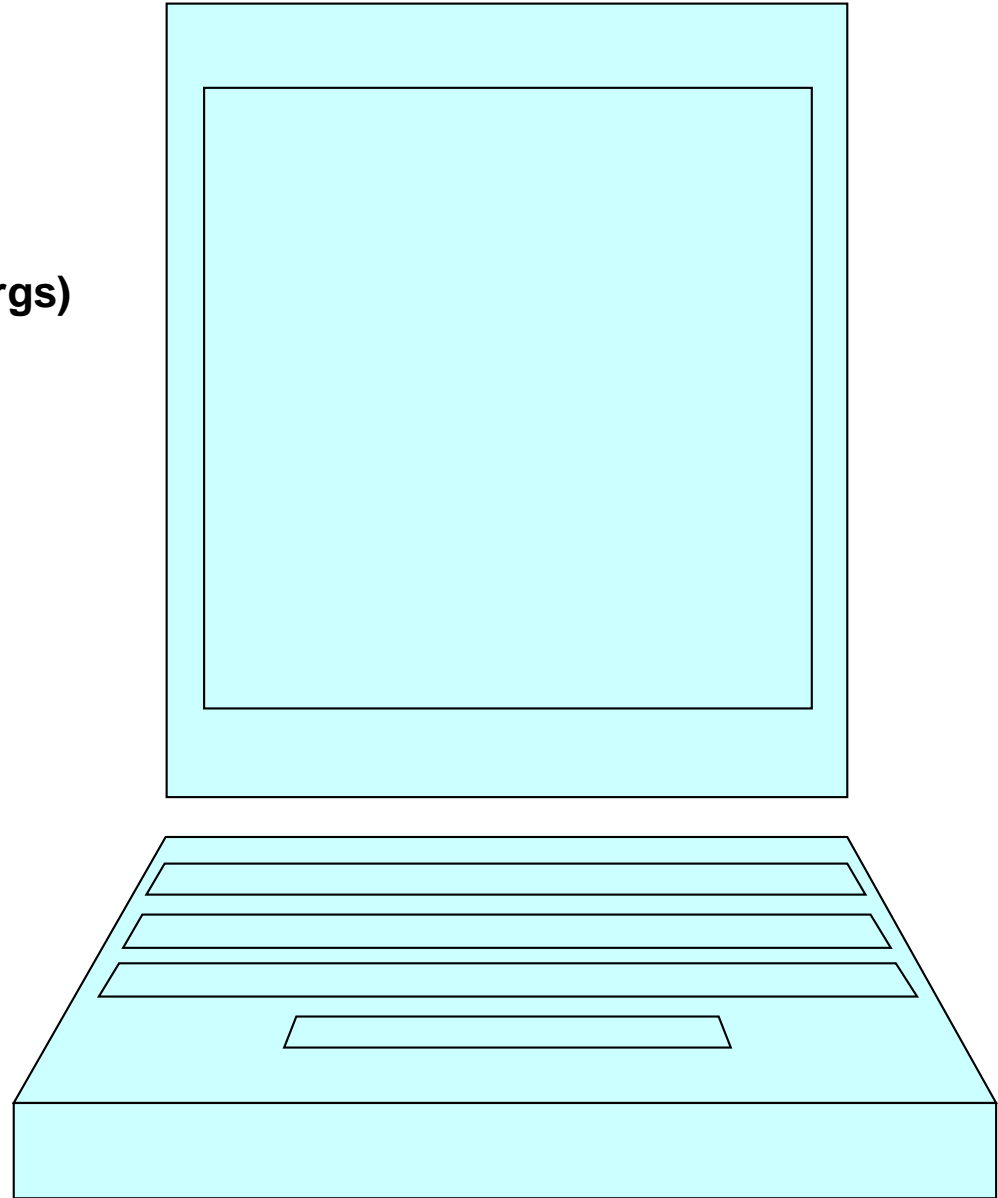
Enter a number   5

YES

NO

YES

NO

YES

NO

YES

NO

OK

i =   5

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```java
import java.util.*;
public class Iteration
{
  public static void main(String[] args)
  {
    int num;
    Scanner kb = new Scanner(System.in);
    System.out.print("Enter a number ");
    num = kb.nextInt();
    for (int i= 1; i< num; i++)
    {
      System.out.println("YES");
      System.out.println("NO");
    }
    System.out.println("OK");
  }
}
```
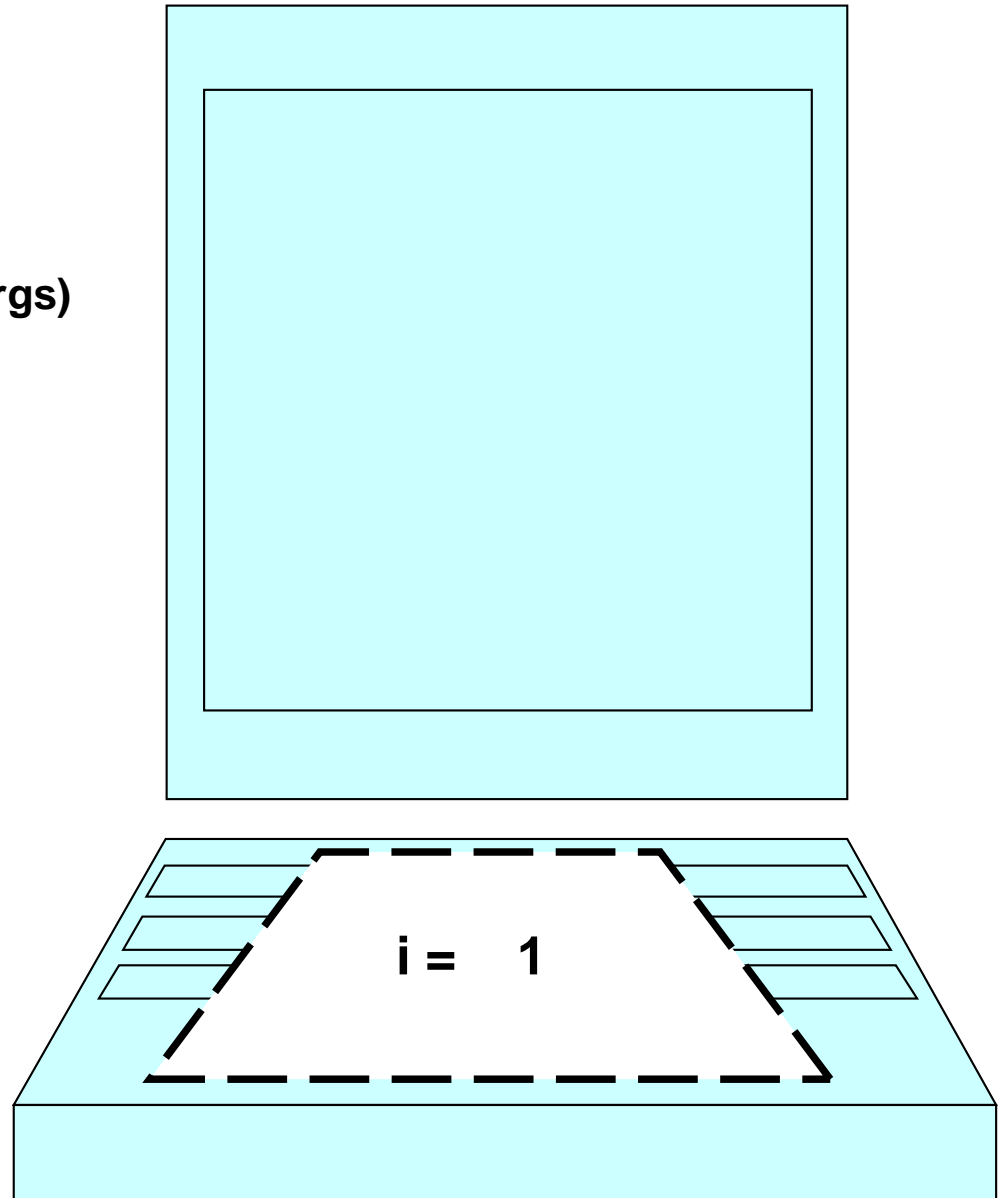
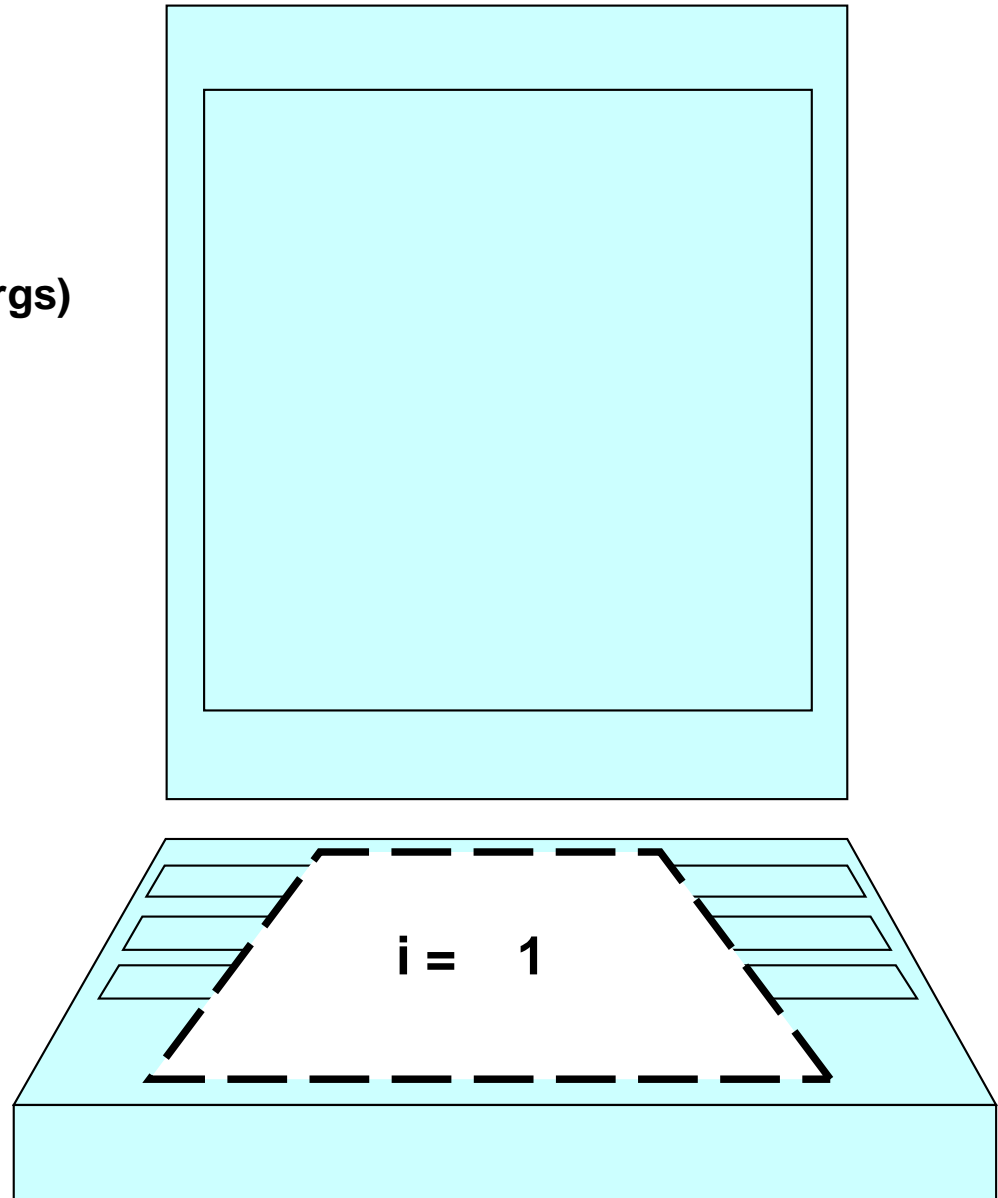**What is the output of this program if the user enters 0 when prompted?**

```java
import java.util.*;
public class Iteration
{
  public static void main(String[] args)
  {
    int num;
    Scanner kb = new Scanner(System.in);
    System.out.print("Enter a number ");
    num = kb.nextInt();
    for (int i= 1; i< num; i++)
    {
      System.out.println("YES");
      System.out.println("NO");
    }
    System.out.println("OK");
  }
}
```

Enter a number   0

OK

i =   1

```java
import java.util.*;
public class Iteration
{
  public static void main(String[] args)
  {
    for (int i= 1; i<= 10; i--)
    {
        System.out.println("YES");
        System.out.println("NO");
     }
    System.out.println("OK");
  }
}
```
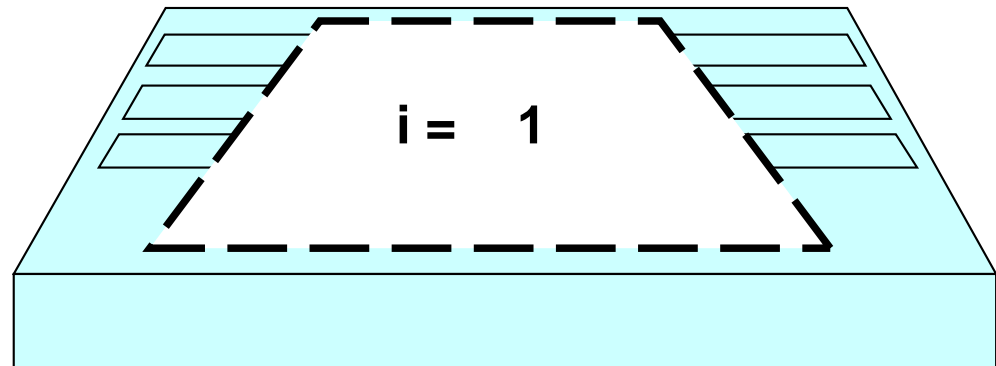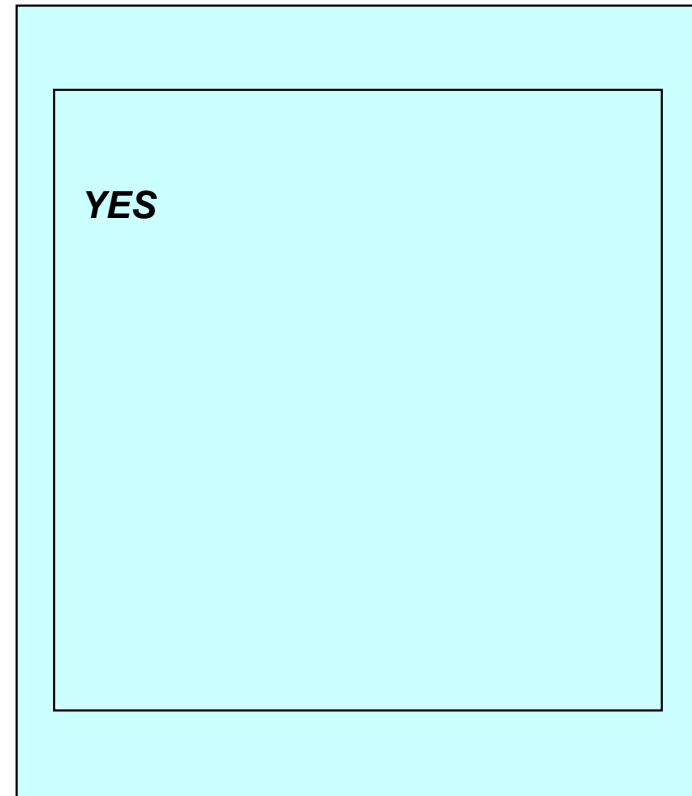
What is the output of this program?

```java
import java.util.*;
public class Iteration
{
  public static void main(String[] args)
  {
    for (int i= 1; i<= 10; i--)
    {
      System.out.println("YES");
      System.out.println("NO");
    }
    System.out.println("OK");
  }
}
```
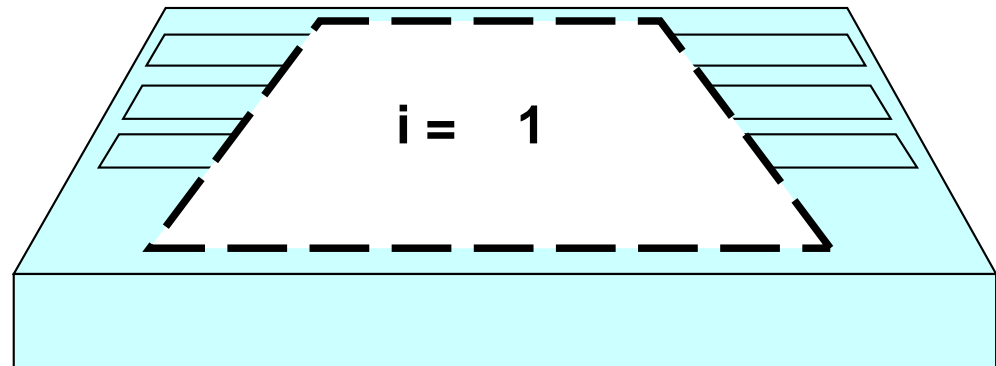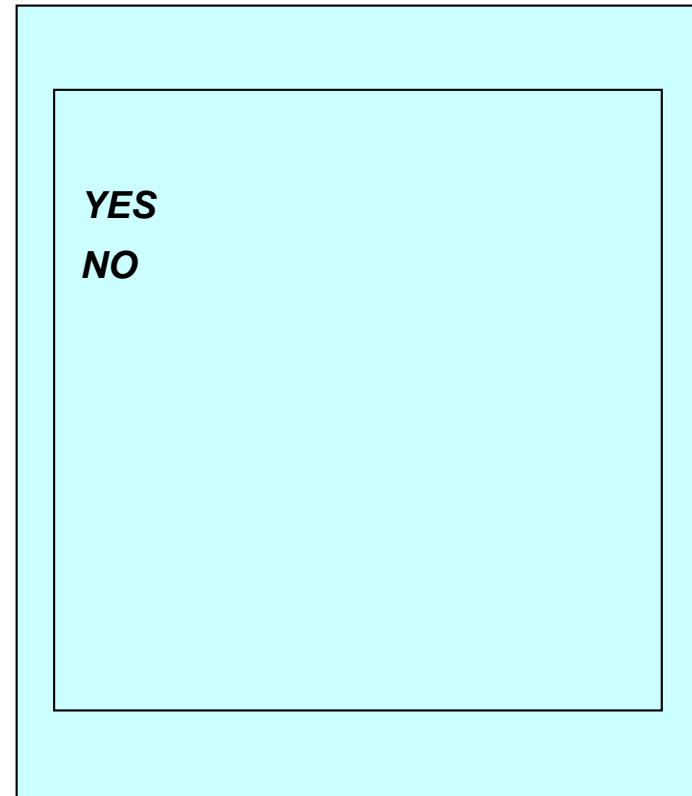
```java
import java.util.*;
public class Iteration
{
  public static void main(String[] args)
  {
    for (int i= 1; i<= 10; i--)
    {
      System.out.println("YES");
      System.out.println("NO");
    }
    System.out.println("OK");
  }
}
```

i = 1

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```java
import java.util.*;
public class Iteration
{
  public static void main(String[] args)
  {
    for (int i= 1; i<= 10; i--)
    {
        System.out.println("YES");
        System.out.println("NO");
    }
    System.out.println("OK");
  }
}
```
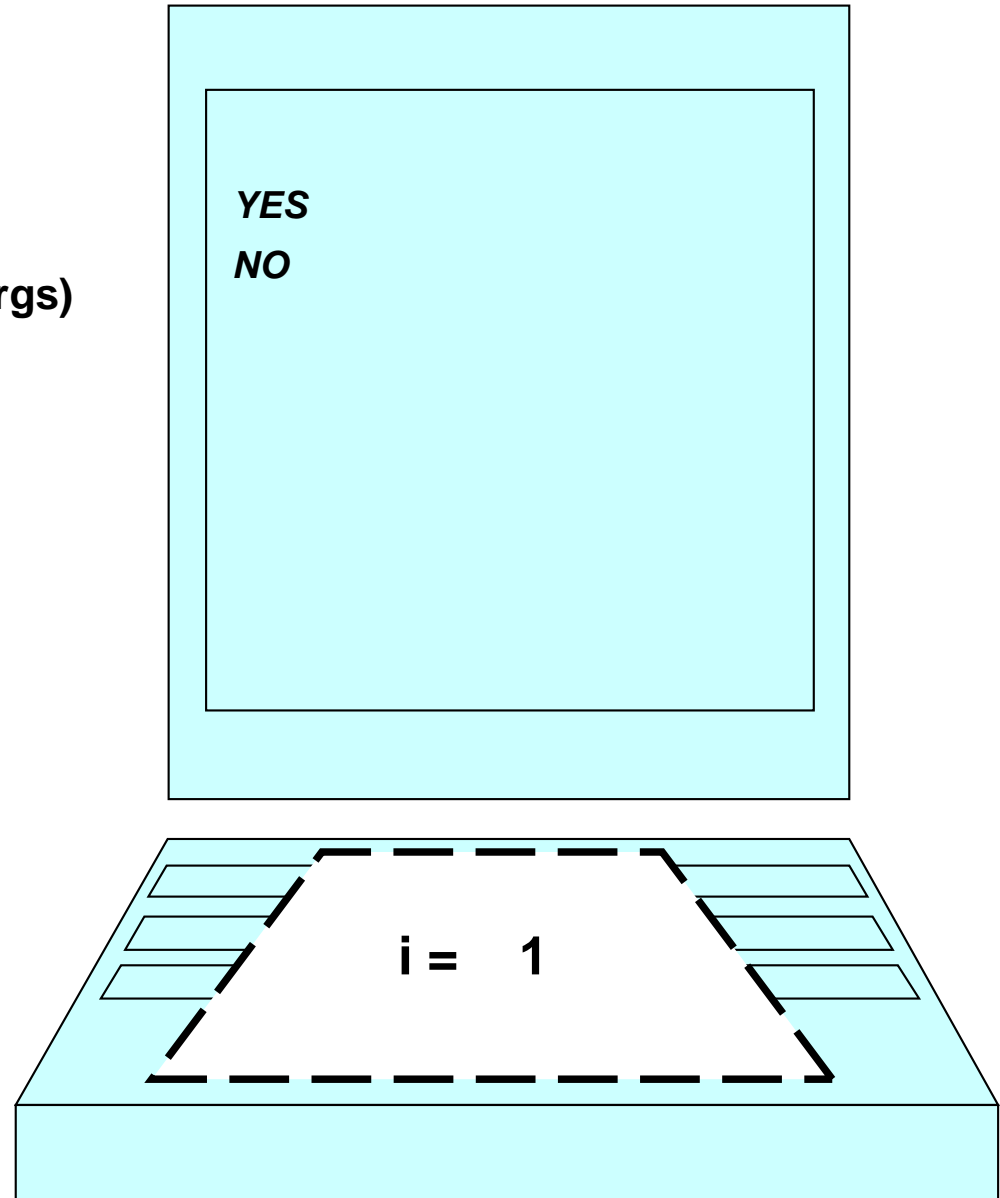
i = 1

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```java
import java.util.*;
public class Iteration
{
  public static void main(String[] args)
  {
    for (int i= 1; i<= 10; i--)
    {
      System.out.println("YES");
      System.out.println("NO");
    }
    System.out.println("OK");
  }
}
```
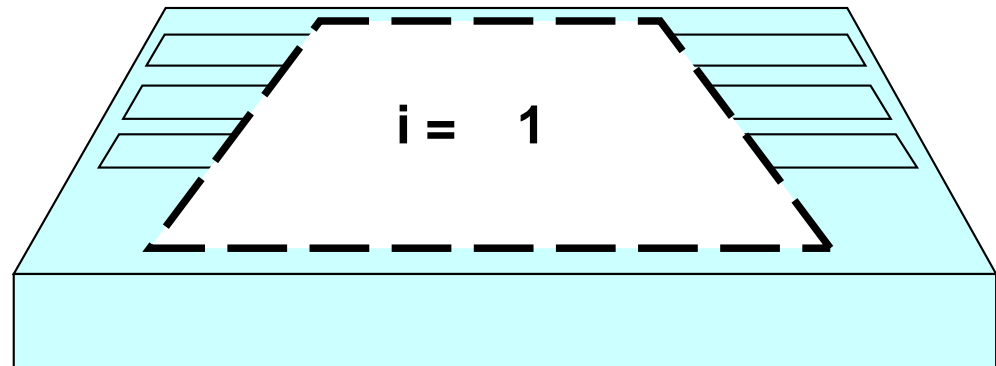
YES

i =   1

```java
import java.util.*;
public class Iteration
{
  public static void main(String[] args)
  {
    for (int i= 1; i<= 10; i--)
    {
      System.out.println("YES");
⟶     System.out.println("NO");
    }
    System.out.println("OK");
  }
}
```
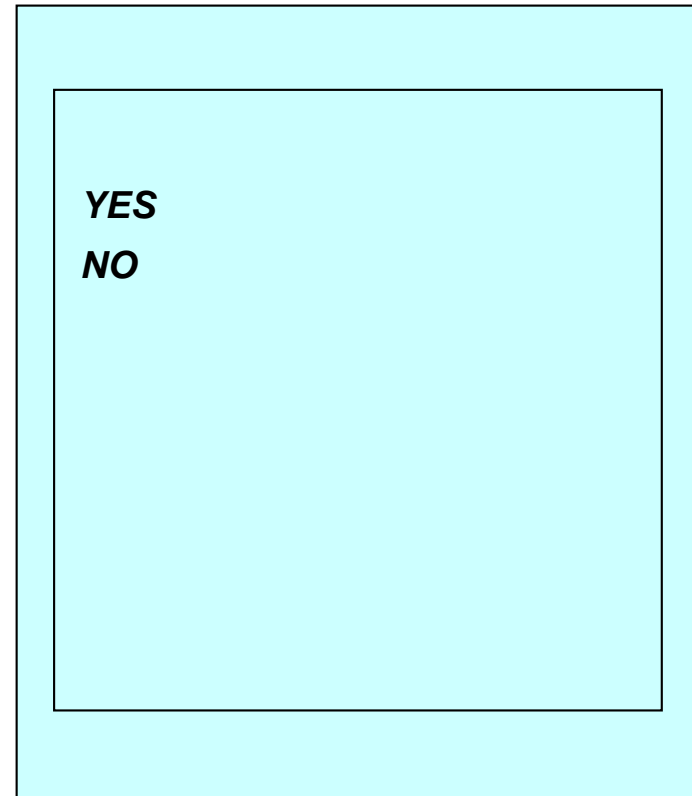
YES
NO

i = 1

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```java
import java.util.*;
public class Iteration
{
   public static void main(String[] args)
   {
    for (int i= 1; i<= 10; i--)
    {
        System.out.println("YES");
        System.out.println("NO");
     }
    System.out.println("OK");
   }
}
```
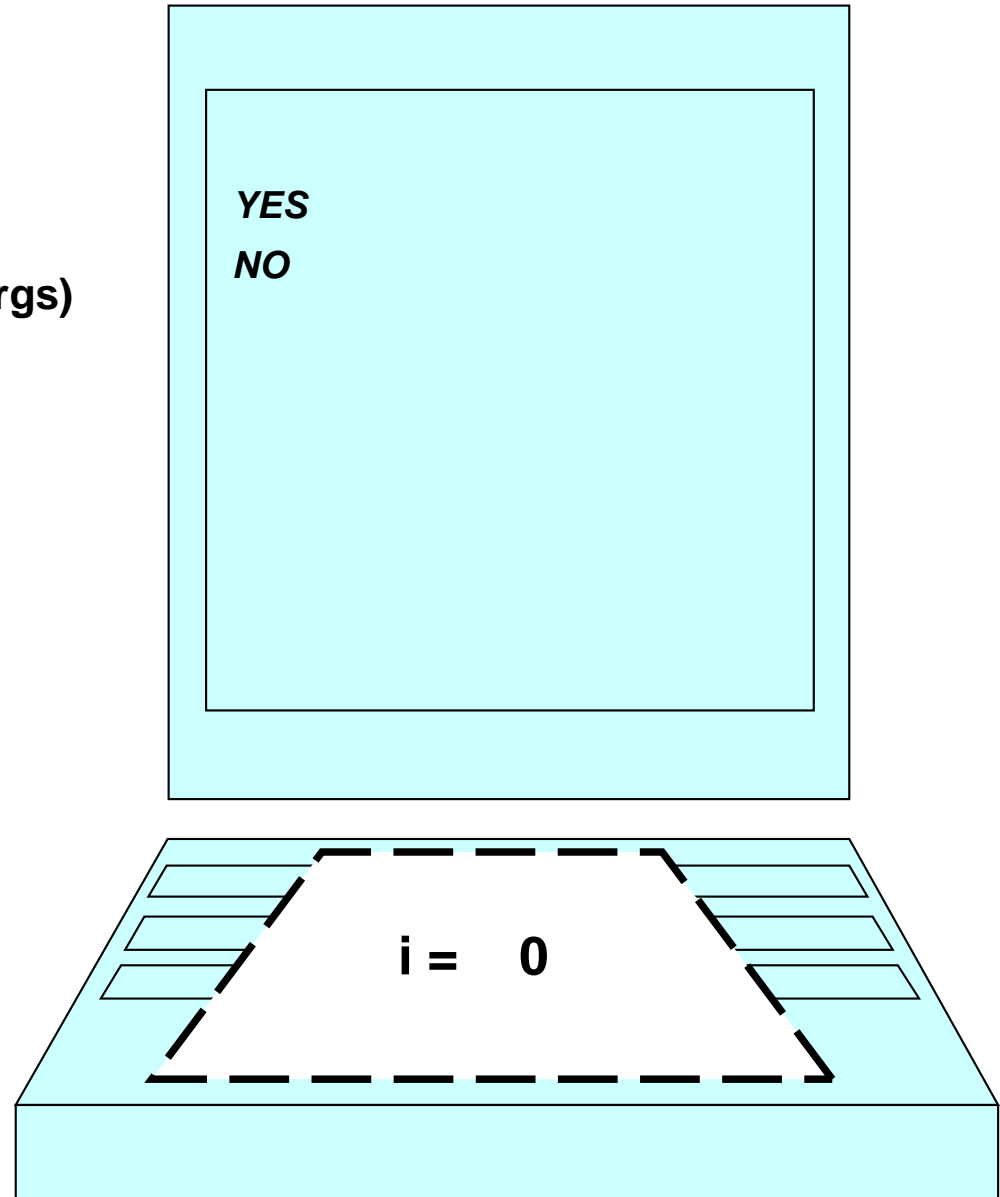
YES
NO

i = 1

```java
import java.util.*;
public class Iteration
{
  public static void main(String[] args)
  {
    for (int i= 1; i<= 10; i--)
    {
      System.out.println("YES");
      System.out.println("NO");
    }
    System.out.println("OK");
  }
}
```
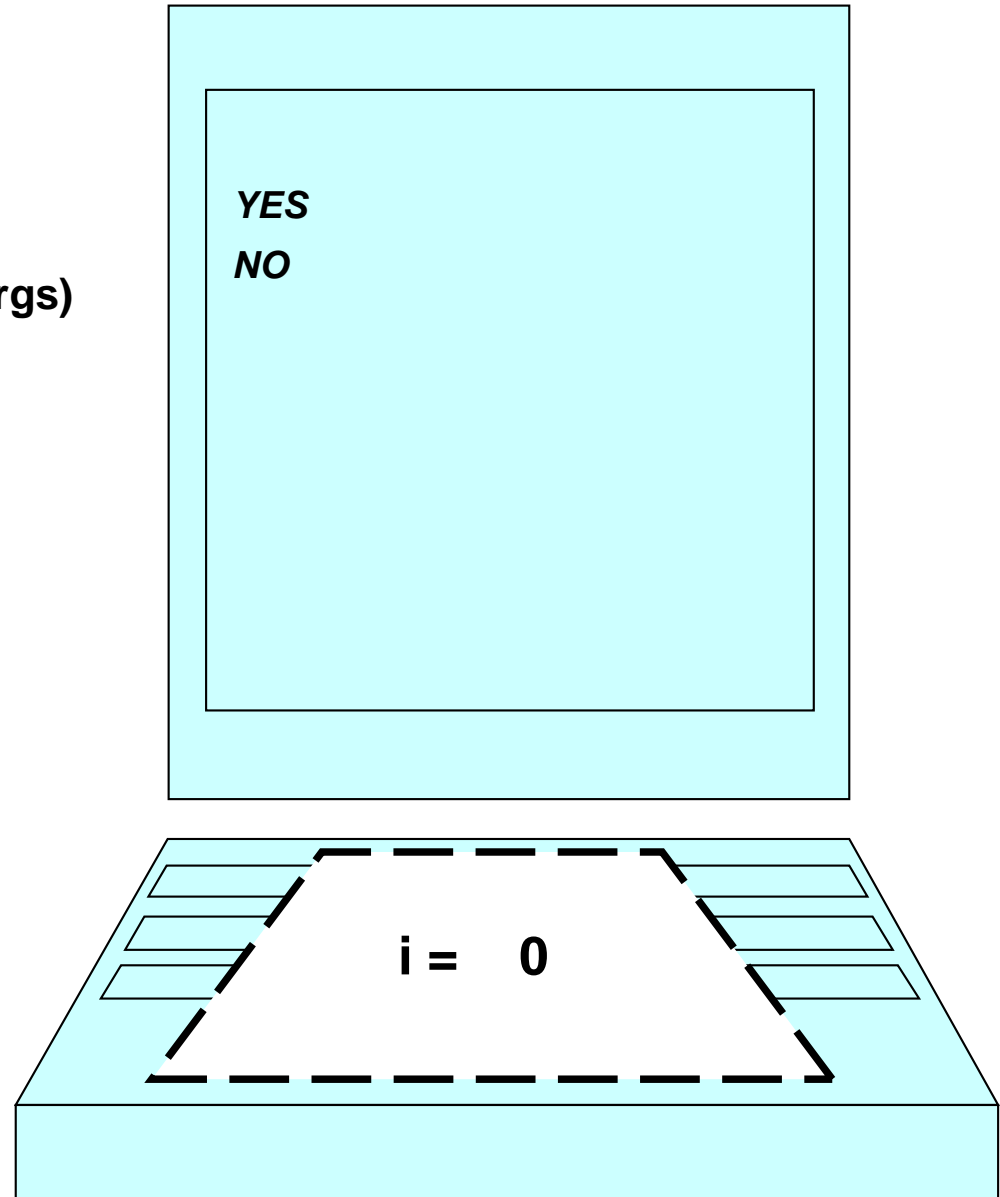
YES
NO

i =   1

Topic 5 part 2c

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```java
import java.util.*;
public class Iteration
{
   public static void main(String[] args)
   {
      for (int i= 1; i<= 10; i--)
      {
         System.out.println("YES");
         System.out.println("NO");
      }
      System.out.println("OK");
   }
}
```
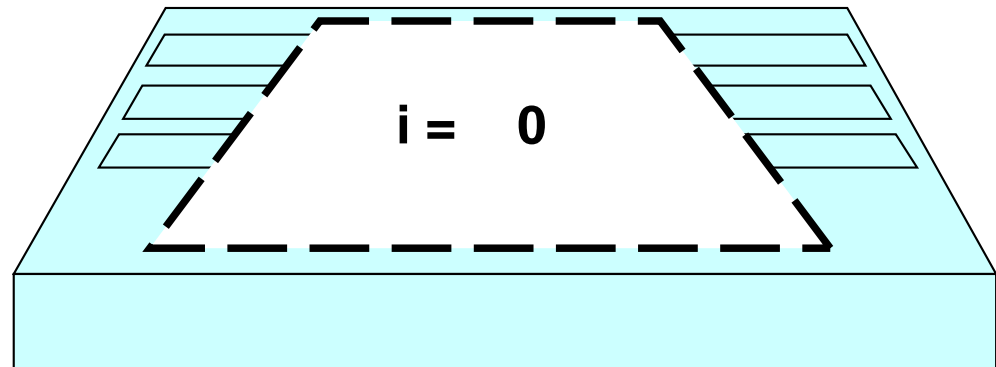
YES
NO

i =   0

```java
import java.util.*;
public class Iteration
{
  public static void main(String[] args)
  {
    for (int i= 1; i<= 10; i--)
    {
      System.out.println("YES");
      System.out.println("NO");
    }
    System.out.println("OK");
  }
}
```
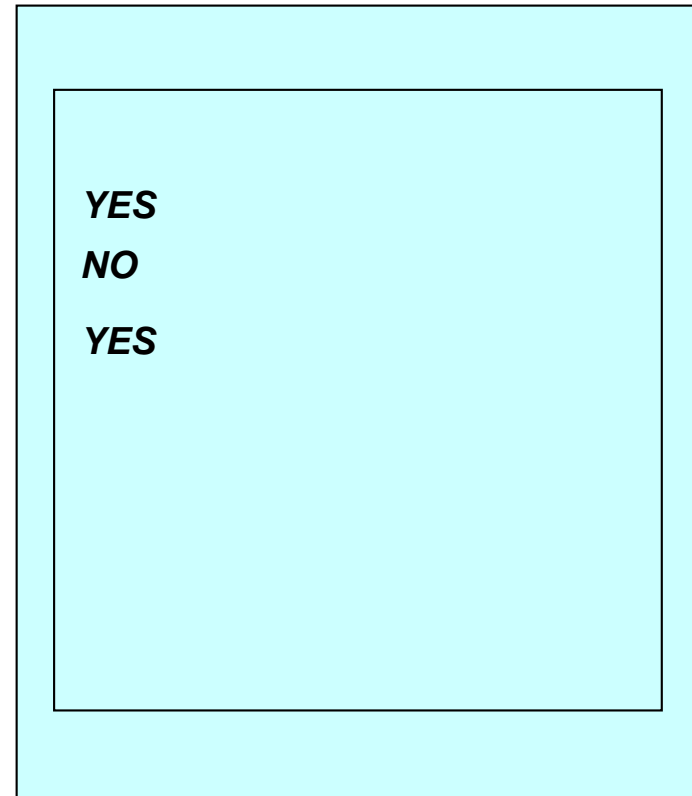
YES
NO

i = 0

```java
import java.util.*;
public class Iteration
{
  public static void main(String[] args)
  {
    for (int i= 1; i<= 10; i--)
    {
      System.out.println("YES");
      System.out.println("NO");
    }
    System.out.println("OK");
  }
}
```
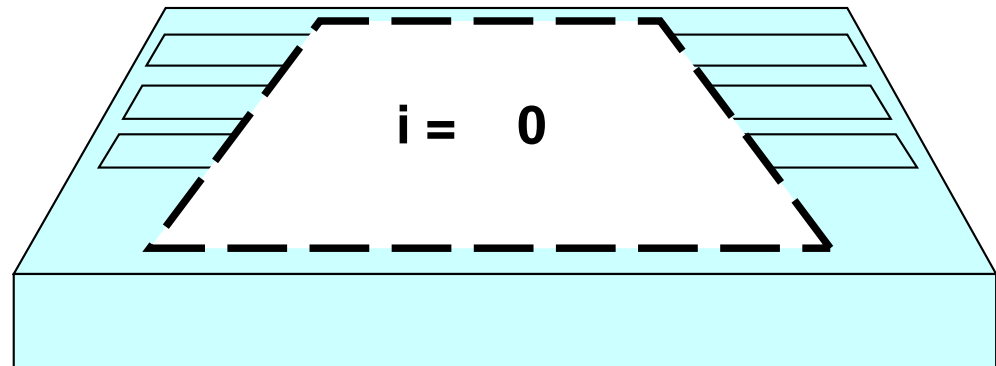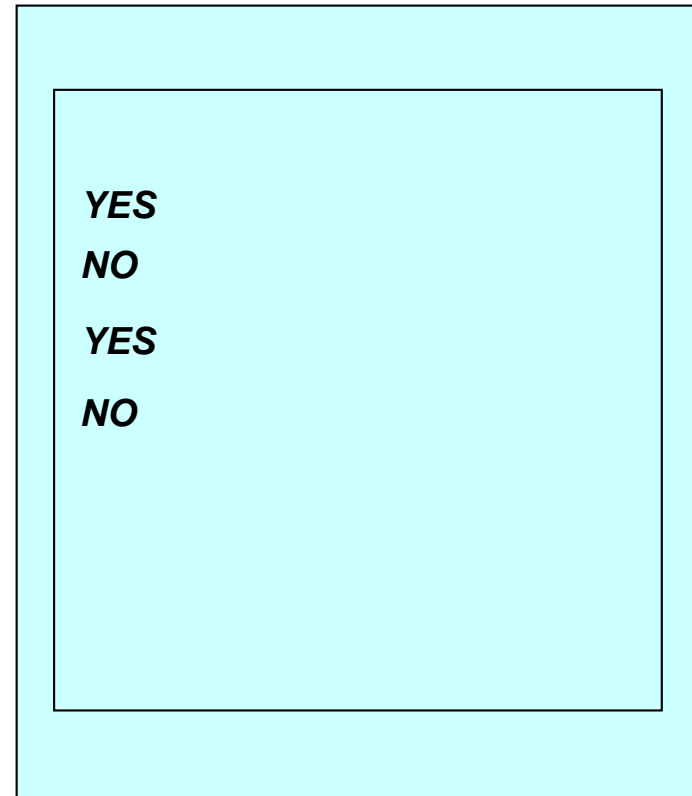
YES
NO

YES

i =   0

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```java
import java.util.*;
public class Iteration
{
  public static void main(String[] args)
  {
    for (int i= 1; i<= 10; i--)
    {
      System.out.println("YES");
→     System.out.println("NO");
    }
    System.out.println("OK");
  }
}
```
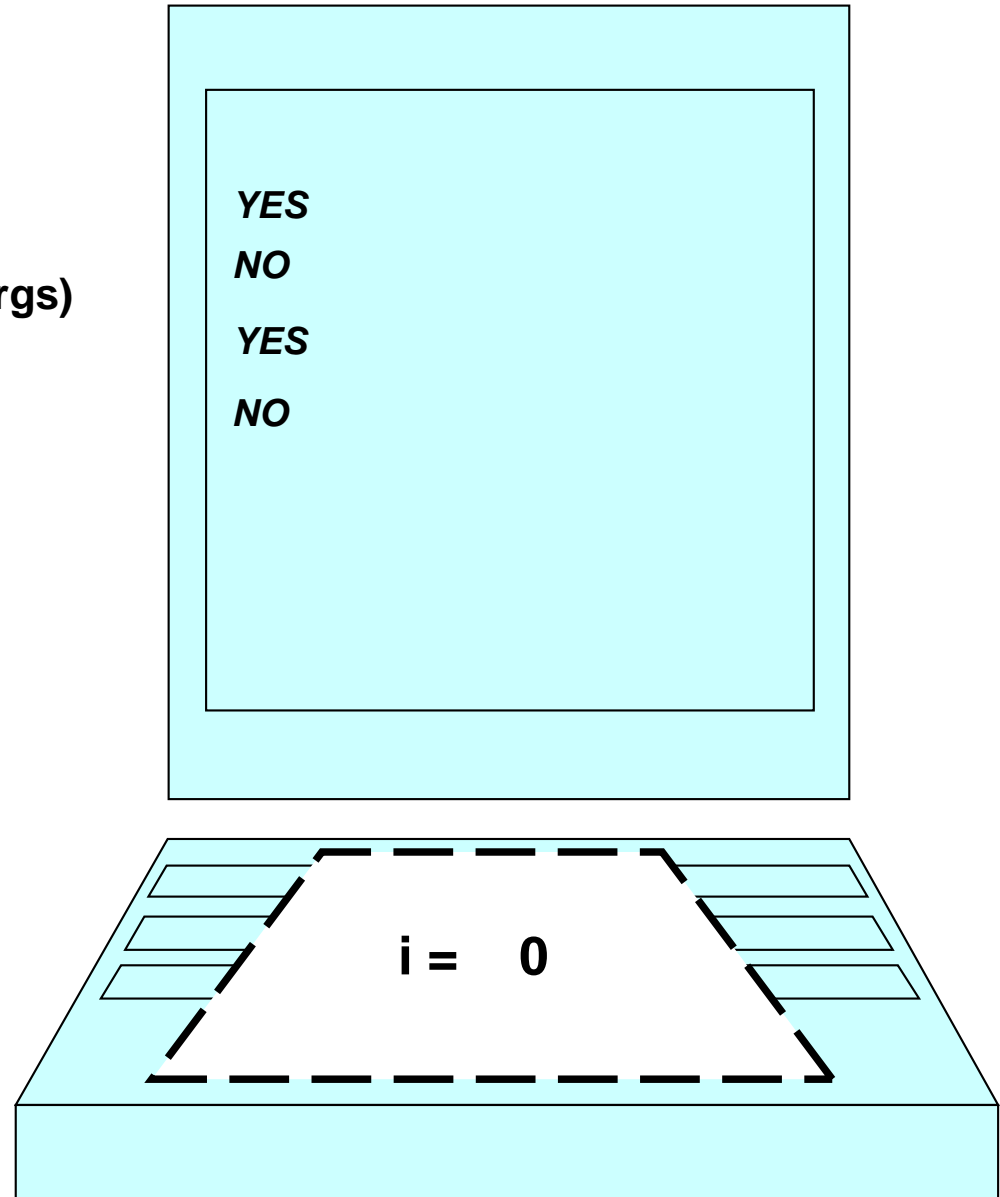
YES
NO
YES
NO

i =   0

Topic 5 part 2c

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```java
import java.util.*;
public class Iteration
{
  public static void main(String[] args)
  {
    for (int i= 1; i<= 10; i--)
    {
      System.out.println("YES");
      System.out.println("NO");
    }
    System.out.println("OK");
  }
}
```
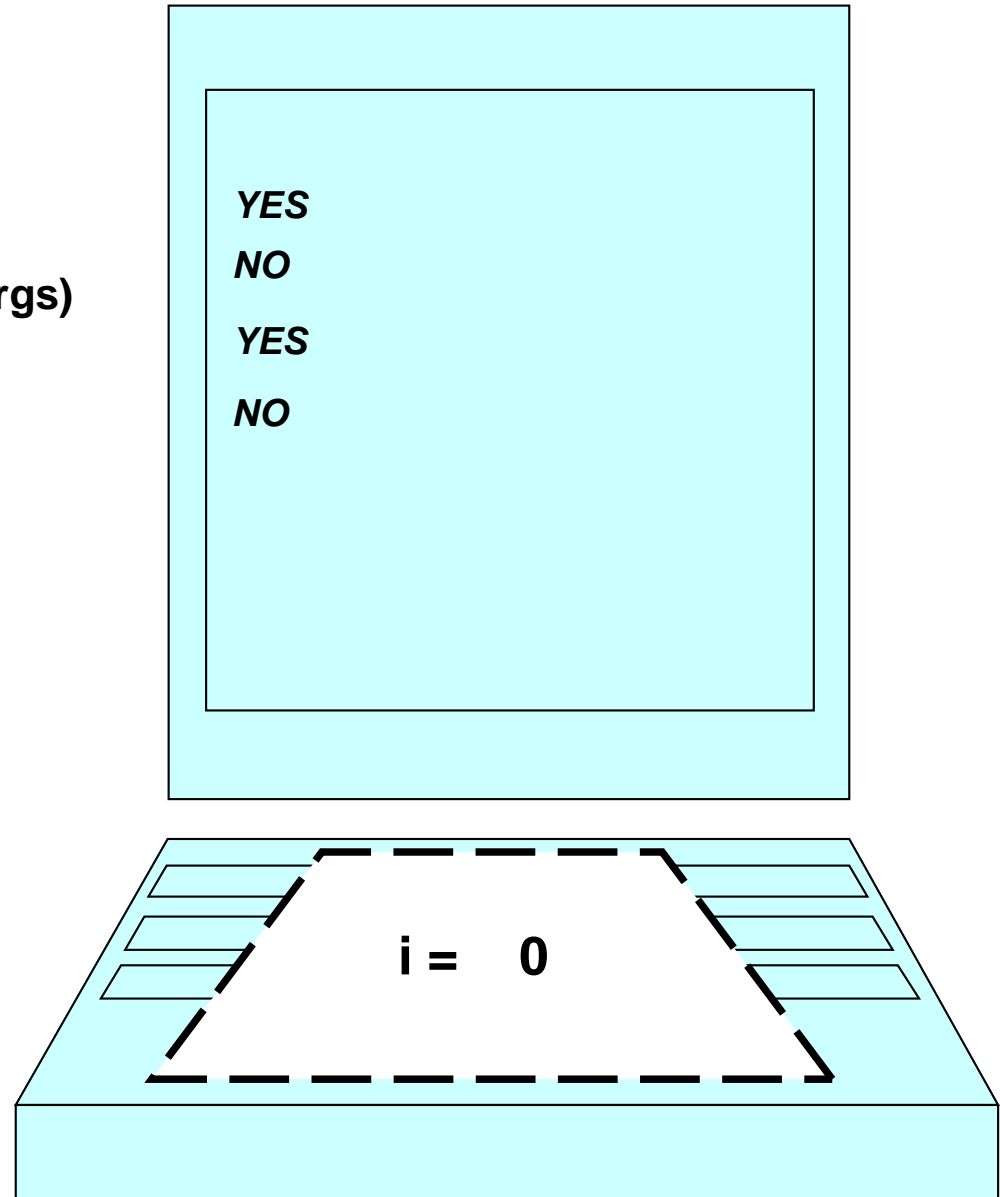
YES
NO
YES
NO

i =   0

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```java
import java.util.*;
public class Iteration
{
  public static void main(String[] args)
  {
    for (int i= 1; i<= 10; i--)
    {
      System.out.println("YES");
      System.out.println("NO");
    }
    System.out.println("OK");
  }
}
```

YES
NO
YES
NO

i =   0

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```java
import java.util.*;
public class Iteration
{
  public static void main(String[] args)
  {
    for (int i= 1; i<= 10; i--)
    {
      System.out.println("YES");
      System.out.println("NO");
    }
    System.out.println("OK");
  }
}
```
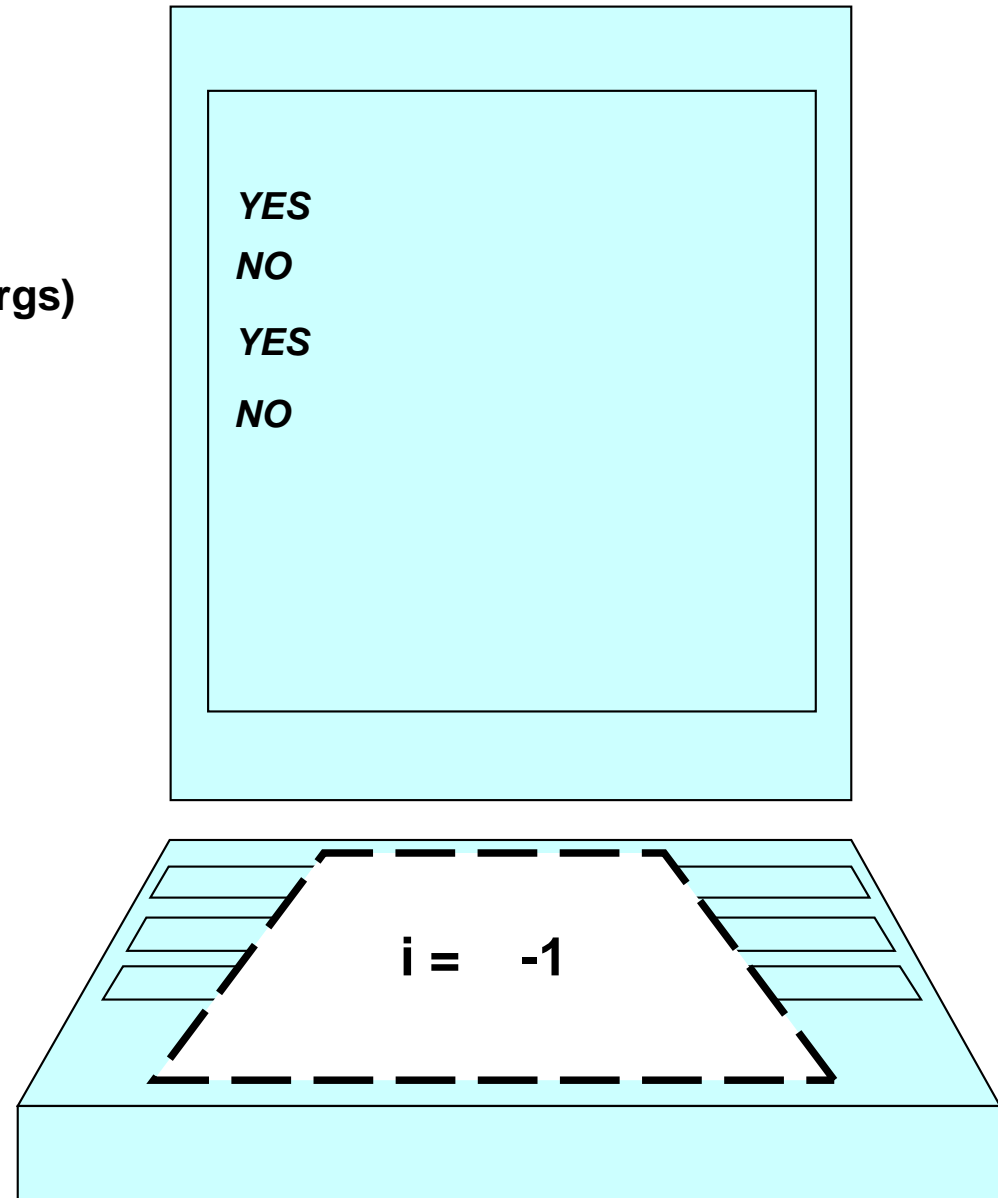
YES
NO
YES
NO

i =   -1

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```java
import java.util.*;
public class Iteration
{
    public static void main(String[] args)
    {
        for (int i= 1; i<= 10; i--)
        {
            System.out.println("YES");
            System.out.println("NO");
        }
        System.out.println("OK");
    }
}
```
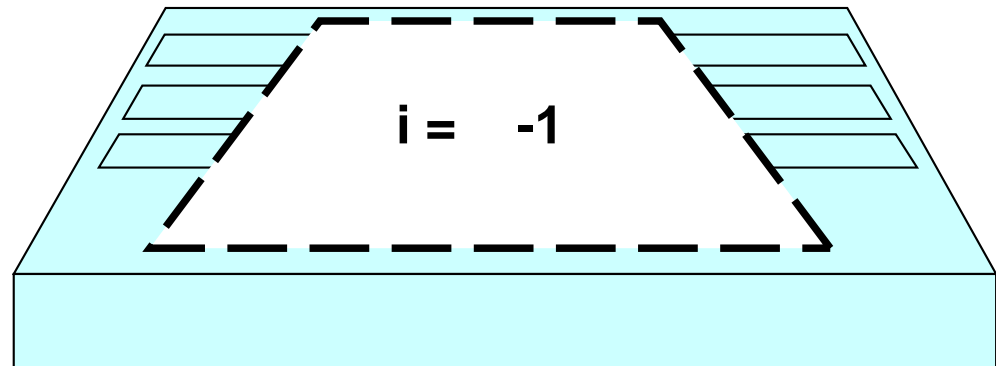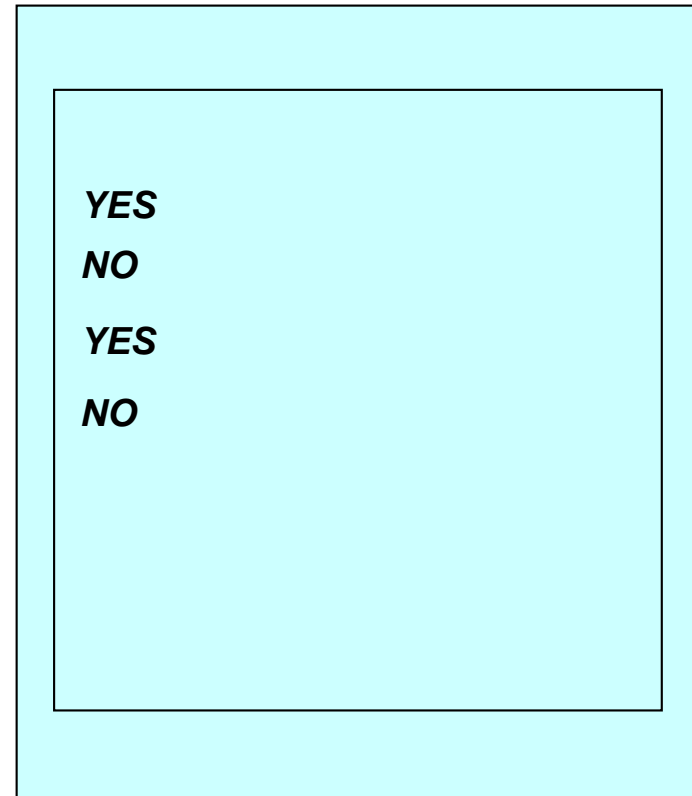
YES
NO
YES
NO

i =   -1

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```java
import java.util.*;
public class Iteration
{
   public static void main(String[] args)
   {
     for (int i= 1; i<= 10; i--)
     {
         System.out.println("YES");
         System.out.println("NO");
      }
     System.out.println("OK");
   }
}
```

YES
NO
YES
NO

i =   -1

Topic 5 part 2c

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