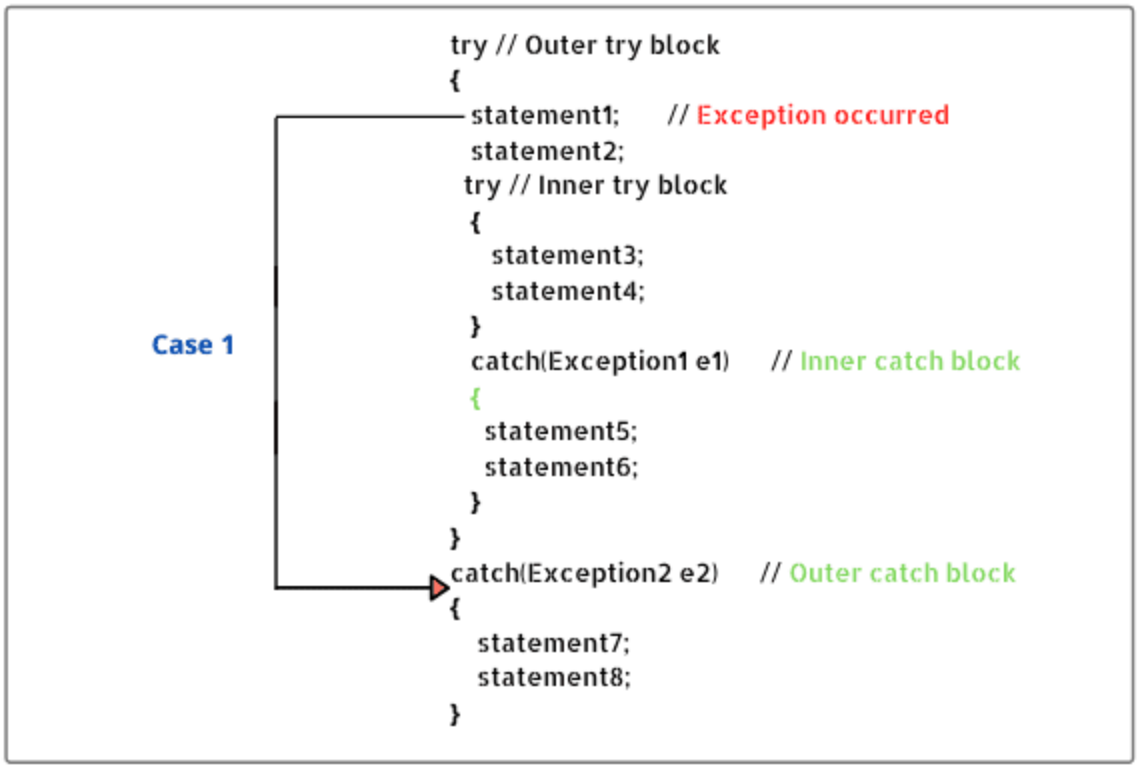
Nested Try in Java

When a try block is defined within another try, it is called **nested try block in java**.

The try block which encloses another try block is called outer try block and the enclosed try block is called inner try block.

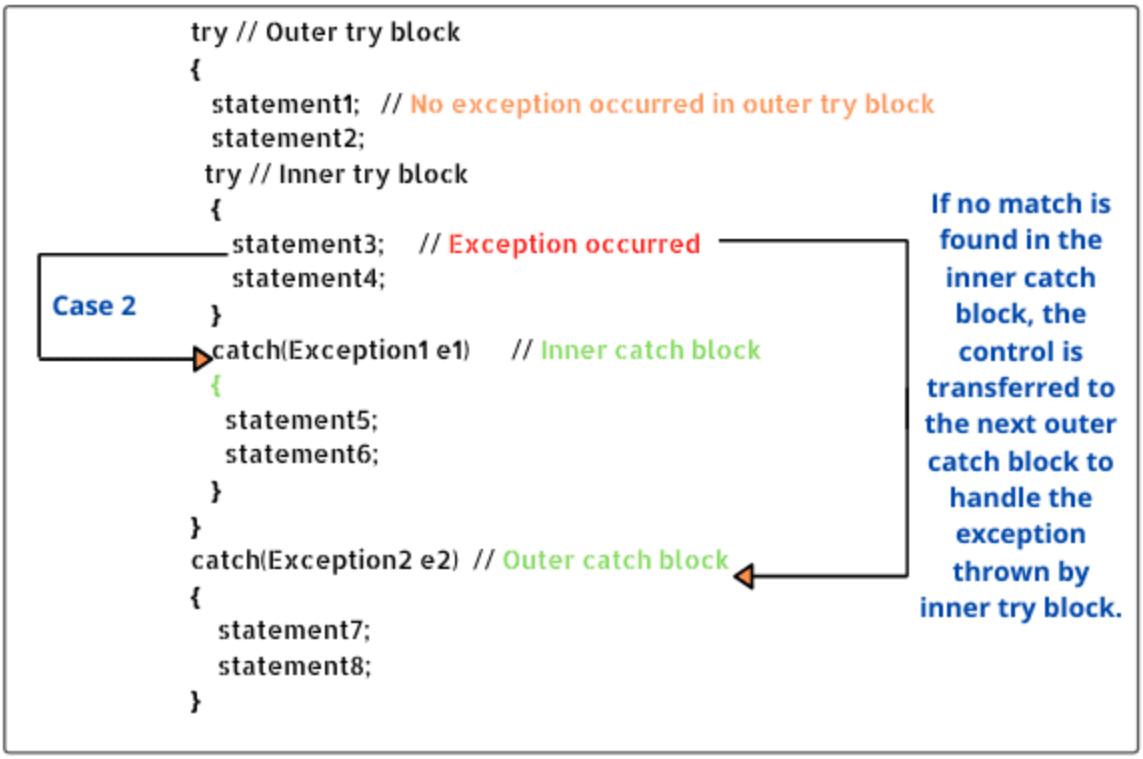
Case 1:

If an exception occurs within outer try block, the control of execution is transferred from the outer try block to outer catch block that will handle the exception thrown by outer try block.



Case 2:

If an exception does not occur inside outer try block, the control of execution enters into the inner try block. If an exception occurs inside inner try block, the catch block associated with this inner try block is searched for a proper match.



Case 3:

If both try blocks do not throw any exception, both catch blocks are skipped naturally and the execution continues with statements following the outer catch block.

```
package nestedTryExample;
public class NestedTryBlockEx1
{
public static void main(String[] args)
{
  String str = "Puneet";
  int x[ ] = {0, 1, 2, 3, 4};

  try // Outer try block
  {
    str = null; // Exception occurred.
    int slength = str.length();
    System.out.println("String length: " +slength);
```

```
        try // Inner try block
        {
          int y = 6;
          System.out.println(x[y]);
        }
 // Inner catch block.
        catch(ArrayIndexOutOfBoundsException aie)
        {
          System.out.println("Exception is thrown");
          System.out.println(aie.toString());
        }
  } // Outer try block ends here.
// Outer catch block.
  catch(NullPointerException npe)
  {
     System.out.println("Exception is thrown ");
     System.out.println(npe.toString());
  }
 }
}
```

```
package nestedTryExample;
public class NestedTryBlockEx2
{
public static void main(String[] args)
{
  String str = "Puneet";
  int x[ ] = {0, 1, 2, 3, 4};

 try // Outer try block
 {
   int slength = str.length();
   System.out.println("String length: " +slength);
```

```
   try // Inner try block
   {
     int y = 6;
     System.out.println(x[y]); // Exception occurred.
   }
   catch(ArrayIndexOutOfBoundsException aie)
   {
      System.out.println("Exception is thrown");
      System.out.println(aie.toString());
    }
  } // Outer try block ends here.
  catch(NullPointerException npe)
  {
     System.out.println("Exception is thrown ");
     System.out.println(npe.toString());
  }
 }
}
```

```
package nestedTryExample;
public class NestedTryBlockEx3
{
public static void main(String[] args)
{
  String str = "Puneet";
  int x[ ] = {0, 1, 2, 3, 4};

 try // Outer try block
 {
   int slength = str.length();
   System.out.println("String length: " +slength);

   try // Inner try block
   {
     int y = 6;
```

```
    System.out.println(x[y]); // Exception occurred.
   }
   catch(ArithmeticException ae) // No match is found.
   {
     System.out.println("Exception is thrown");
     System.out.println(ae.toString());
   }
 }
 catch(ArrayIndexOutOfBoundsException aie) // Match found.
 {
    System.out.println("Exception is thrown ");
    System.out.println(aie.toString());
 }
 System.out.println("I am out of outer catch block");
 }
}
```

```
package nestedTryExample;
public class NestedTryBlockEx4
{
public static void main(String[] args)
{
  String str = "Puneet";
  int x[ ] = {0, 1, 2, 3, 4};

// Outer try block.
  try
  {
    int slength = str.length();
    System.out.println("String length: " +slength);
 // An inner try catch block inside a try block.
    try
    {
      int y = 6;
      System.out.println(x[y]); // Exception occurred.
```

```
    }
    catch(ArithmeticException ae) // No match is found.
    {
      System.out.println("Exception is thrown");
      System.out.println(ae.toString());
    }
  }
  catch(NullPointerException npe) // No match is found.
  {
    System.out.println("Exception is thrown ");
    System.out.println(npe.toString());
  }
  System.out.println("I am out of outer catch block");
 }
}
```

```
package nestedTryExample;
public class NestedTryBlockEx5 {
public static void main(String[] args)
{
 try
 {
// Creating an array of integer values.
   int x[] = {0, 1, 2};
   try
   {
  // Creating an array inside try block.
     int y[] = {0, 10};
     int z = x[2]/y[0];
     System.out.println("Division of two numbers: " +z);
   }
   catch(ArrayIndexOutOfBoundsException aie)
   {
     System.out.println("Inside inner try catch block");
     System.out.println(aie.toString());
```

```
  }
 }
 catch(ArithmeticException ae) // No match is found.
 {
   System.out.println("Inside outer try catch block ");
   System.out.println(ae.toString());
 }
 System.out.println("I am out of outer catch block");
 }
}
```