

CSE 4308
Database Management Systems Lab
Lab 09
JDBC



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Understanding Java Code

```
main.cpp
1  #include <iostream>
2
3  using namespace std;
4
5  class MyClass
6  {
7      public:
8          int id;
9          string name;
10 };
11
12 int main()
13 {
14     MyClass myObj;
15     cout<<"What's your ID?"<<endl;
16     cin >> myObj.id;
17     myObj.name = "Anas";
18     cout<<"My name is "<<myObj.name<<", ID "<<myObj.id<<endl;
19     return 0;
20 }
```

```
HelloWorld.java
1  import java.util.Scanner;
2
3  public class HelloWorld
4  {
5      private static class MyClass
6      {
7          public int id;
8          public String name;
9      }
10     public static void main(String[] args)
11     {
12         MyClass myObj = new MyClass();
13         Scanner input = new Scanner(System.in);
14         System.out.println("What's your ID?");
15         myObj.id = input.nextInt();
16         myObj.name = "Anas";
17         System.out.println("My name is "+myObj.name+", ID "+myObj.id);
18     }
19 }
```

input

```
What's your ID?
43
My name is Anas, ID 43

...Program finished with exit code 0
Press ENTER to exit console.
```

```
HelloWorld
"C:\Program Files\Java\jdk-14.0.1\bin\java.exe" "-javaagent:D:\Program Files\JetB
What's your ID?
43
My name is Anas, ID 43

Process finished with exit code 0
```

try and catch - sample code

```
public class TryCatchExample
{
    public static void main(String[] args)
    {
        int number, result;
        number = 40;
        try
        {
            result = number/0;
            System.out.println(result);
        }
        catch(ArithmeticException e)
        {
            System.out.println("Error in try block. Exception: " + e);
            result = number/10;
            System.out.println(result);
        }
        catch (Exception e)
        {
            System.out.println("Error in try block. Exception: " + e);
        }
        // result = number/0;
        // System.out.println(result);
        System.out.println("Code completed.");
    }
}
```

Sample JDBC Code Snippet

```
import java.sql.*;

public class Main {

    public static void main(String[] args)
    {
        String username = "senpai";
        String password = "senpai";
        String url = "jdbc:oracle:thin:@localhost:1521/XE";
        String sqlQuery = "SELECT AVG(AGE) FROM CUSTOMER";
        double avgAge = 0;

        try
        {
            //      1) Register the driver class
            Class.forName("oracle.jdbc.driver.OracleDriver");

            //      2) Create the connection object
            Connection con = DriverManager.getConnection(url, username, password);

            //      3) Create the Statement object
            Statement statement = con.createStatement();

            System.out.println("Connection to database successful");
```

Sample JDBC Code Snippet

```
//      4) Execute the query
ResultSet result = statement.executeQuery(sqlQuery);
while (result.next())
{
    avgAge = result.getLong(1);
}
System.out.println("Average age: "+avgAge);

//      5) Close the connection object
con.close();
statement.close();
result.close();
}
catch (SQLException e)
{
    System.out.println("Error while connecting to database. Exception code: " + e);
}
catch (ClassNotFoundException e)
{
    System.out.println("Failed to register driver. Exception code: " + e);
}
}
```

Thank You!