MCA SEM 1

ADVANCED JAVA ASSIGNMENT 3

1) Write a program to print "Hello World" using spring framework.

TestHelloWorld.java

```java
package edu.bvimit;
import org.springframework.context.support.ClassPathXmlApplicationContext;
 public class TestHelloWorld {

      public static void main(String[] args) {
            // TODO Auto-generated method stub
            ClassPathXmlApplicationContext app=new
                      ClassPathXmlApplicationContext("appctx3.xml");
            Hello_world hw=(Hello_world)app.getBean("hw");

            System.out.println(hw.toString());
      }
 }
```

appctx3.xml

```xml
<?xml version="1.0" encoding="UTF-8"?>
<beans xmlns="http://www.springframework.org/schema/beans"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:schemaLocation="http://www.springframework.org/schema/beans
http://www.springframework.org/schema/beans/spring-beans.xsd">

<bean id="hw" class="edu.bvimit.Hello_world">
<property name="name" value="Atharv"/>
</bean>

</beans>
```

Hello_world.java

```java
package edu.bvimit;
 public class Hello_world
{
      String name;

      public String getName() {
            return name;
      }
      public void setName(String name) {
            this.name=name;
      }

      @Override
```

```java
        public String toString() {
return"Hello World,I'm "+name+".";
        }
}
```

OUTPUT:

<terminated> TestHelloWorld [Java Application] C:\Program Files\Java\jre1.8.0_45ʹ

Hello World,I'm Atharv.

2) Write a program to demonstrate dependency injection via setter method

Shape.java

```java
package edu.bvimit;
 public interface Shape
{    void show();
}
```

Circle.java

```java
package edu.bvimit;

public class Circle implements Shape {
    public void show()
    {
        System.out.println("I am Circle");
    }
}
```

ShapeManager.java

```java
package edu.bvimit;

public class ShapeManager {
Shape myShape; public void
show()
{
    this.myShape.show();

}
public Shape getMyShape() {
    return myShape;
}
public void setMyShape(Shape myShape) {
    this.myShape=myShape;
}
}
```
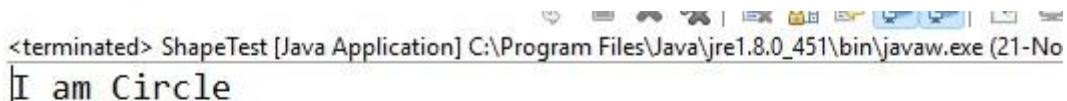
ShapeTest.java

```java
package edu.bvimit;
import org.springframework.context.ApplicationContext;
import org.springframework.context.support.ClassPathXmlApplicationContext;
public class ShapeTest {
    private static ApplicationContext appCon;
  public static void main(String[] args) {
        // TODO Auto-generated method stub
    appCon=new ClassPathXmlApplicationContext("appctx4.xml");
ShapeManager factory= (ShapeManager) appCon.getBean("ShapeMan");
        factory.show();
    }
 }
```

appctx4.xml

```xml
<?xml version="1.0" encoding="UTF-8"?>
<beans xmlns="http://www.springframework.org/schema/beans"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:schemaLocation="http://www.springframework.org/schema/beans
http://www.springframework.org/schema/beans/springbeans.xsd
">
<bean id="Circle" class="edu.bvimit.Circle"></bean>
<bean id="ShapeMan" class="edu.bvimit.ShapeManager">
<property name="myShape" ref="Circle"></property>
</bean>
</beans>
```

OUTPUT:

```
<terminated> ShapeTest [Java Application] C:\Program Files\Java\jre1.8.0_451\bin\javaw.exe (21-No
I am Circle
```

3) Write a program to demonstrate dependency injection via Constructor

Accounttest.java

```java
package edu.bvimit;
import org.springframework.context.ApplicationContext;
import org.springframework.context.support.ClassPathXmlApplicationContext;

public class Accounttest {

        public static void main(String[] args) {
                // TODO Auto-generated method stub
ApplicationContext con=new ClassPathXmlApplicationContext("appctx2.xml");
Account acc=(Account)con.getBean("Account");
System.out.println(acc.toString());
        }
}
```

appctx2.xml

```xml
<?xml version="1.0" encoding="UTF-8"?>
<beans xmlns="http://www.springframework.org/schema/beans"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:schemaLocation="http://www.springframework.org/schema/beans
http://www.springframework.org/schema/beans/spring-beans.xsd">

<bean id="Account" class="edu.bvimit.Account">
<constructor-arg name="id"
value="1"></constructor-arg>
<constructor-arg name="name" value="Atharv "></constructor-arg>
<constructor-arg name="balance" value="69000"></constructor-arg>
</bean>

</beans>
```

Account.java

```java
package edu.bvimit;
public class Account {
int id; String
name; int
balance;
public Account(int id,String name,int balance) {
        super();
this.id=id;
this.name=name;
this.balance=balance;
}
public int getId() {
        return id;
}
public void setId(int id) {
```

```java
        this.id = id;
}
public String getName() {
        return name;
}
public void setName(String name) {
this.name = name;
}
public int getBalance() {
return balance;
}
public void setBalance(int balance) {
this.balance = balance;
} @Override
public String toString() {        return"Account[id="+id+",name=" + name
+ ",balance=" +balance+"]"; }
 }
```

OUTPUT:

<terminated> Accounttest [Java Application] C:\Program Files\Java\jre1.8.0_451\b

Account [id=1, name=Atharv,balance=690000]

4) write a program to demonstrate Autowiring

LAPTOP.JAVA

```java
package bvimit.edu;
 public class Laptop {
public void compile() {
        System.out.println("Laptop is compiling code...");
    }
}
```

DEVELOPER.JAVA

```java
package bvimit.edu;

public class Developer {

    private Laptop laptop;

    public void code() {
laptop.compile();
        System.out.println("Developer is coding...");
    }
    public void setLaptop(Laptop laptop) {
this.laptop = laptop;
    }
}
```

AUTOWIRETEST.JAVA

```java
package bvimit.edu;


import org.springframework.context.ApplicationContext;

import org.springframework.context.support.ClassPathXmlApplicationContext;
```

```java
public class AutowireTest {

    public static void main(String[] args) {

        ApplicationContext context = new
ClassPathXmlApplicationContext("appctx6.xml");

        Developer dev = (Developer) context.getBean("developer");

dev.code();

    }

}
```

APPCTX6.XML

```xml
<?xml version="1.0" encoding="UTF-8"?>
<beans xmlns="http://www.springframework.org/schema/beans"
xmlns:xsi="http://www.w3.org/2001/XMLSchemainstance"
        xsi:schemaLocation="
        http://www.springframework.org/schema/beans
http://www.springframework.org/schema/beans/springbeans.xsd
">

    <bean id="laptop" class="bvimit.edu.Laptop"/>
    <bean id="developer" class="bvimit.edu.Developer"
autowire="byName"/>

</beans>
```

OUTPUT:

```
<terminated> AutowireTest [Java Application] C:\Program Files\Java\jre1.8.0_451\bin\javaw.exe (12-Dec
Laptop is compiling code...
Developer is coding...
```