JAVA PROGRAMMING
LAB 2

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3. Create a class hierarchy where different animals make different sounds. Use dynamic method dispatch to invoke the correct sound at runtime via a base class reference.

Programm:

```
class Animal{
   void makeSound(){
      System.out.println("Some animal sound");
   }
}
class Dog extends Animal{
   @Override
   void makeSound(){
      System.out.println("Dog barks!!!");
   }
}
class Cat extends Animal{
   @Override
   void makeSound(){
      System.out.println("Cat meow!!!");
   }
}
class Zoo{
   public static void main(String[] args) {
      Animal a;
      a=new Cat();
      a.makeSound();

      a=new Dog();
      a.makeSound();
   }
}
```

OUTPUT:

```
D:\bmsce\2sem\Java programming\lab>java Zoo
Cat meow!!!
Dog barks!!!
```

4. Write a program using the Java package for the following scenario.

Package: calculator

Classes:Adder → int add(int a, int b)

Subtractor → int subtract(int a, int b)

In your main class (outside package):

Import both classes.

Use them to perform addition and subtraction.

Programm:

Javapackage.java

```
import calculator.Adder;
import calculator.Subtractor;

public class Javapackage {
   public static void main(String[] args) {
      Adder adder = new Adder();
      Subtractor subtractor = new Subtractor();

      int sum = adder.add(10, 5);
      int diff = subtractor.subtract(10, 5);

      System.out.println("Sum: " + sum);
      System.out.println("Difference: " + diff);
   }}
```

Adder.java

```
package calculator;
public class Adder {
   public int add(int a, int b) {
      return a + b;
   }}
```

Subtractor.java

```
package calculator;
public class Subtractor {
   public int subtract(int a, int b) {
      return a - b;
   }}
```

OUTPUT:

```
D:\bmsce\2sem\Java programming\lab\project>java Javapackage
Sum: 15
Difference: 5
```