**Assignments on Exception Handling**

1) Write an application that accepts two numbers, divides the first number with the second number and display the result. Hint: You need to handle ArithmeticException which is thrown when there is an attempt to divide a number by zero.

**import** java.util.Scanner;

**class** first

{

**public** **static** **void** main(String arg[])

{

**try**

{

**int** num1,num2;

**float** res;

Scanner sc=**new** Scanner(System.***in***);

System.***out***.print("Enter first number : ");

num1=sc.nextInt();

System.***out***.print("Enter second number : ");

num2=sc.nextInt();

res=num1/num2;

System.***out***.println("Result:"+res);

}

**catch**(ArithmeticException e)

{

System.***out***.println("Error:"+e.getMessage());

System.***out***.println("Error:"+e);

}

System.***out***.println("End of Program...");

}

}

**OUTPUT:**

Enter first number : 10

Enter second number : 0

Error:/ by zero

Error:java.lang.ArithmeticException: / by zero

End of Program...

2. Carrying forward with the above problem, handled ArithmeticException by raising UnsupportedOperationException as a solution.

**import** java.util.Scanner;

**public** **class** second

{

**public** **static** **void** main(String[] args)

{

Scanner sc=**new** Scanner(System.***in***);

**try**

{

System.***out***.print("Enter the first number: ");

**int** a=sc.nextInt();

System.***out***.print("Enter the second number: ");

**int** b=sc.nextInt();

**int** c=a/b;

System.***out***.println("answer is: "+c);

}

**catch**(ArithmeticException e)

{

e.printStackTrace();

System.***out***.println("Divide by zero is an runtime error");

}

**throw** **new** UnsupportedOperationException("Invalid");

}

}

**OUTPUT:**

Enter the first number: 70

Enter the second number: 0

java.lang.ArithmeticException: / by zero

Divide by zero is an runtime error

at second.main(second.java:14)

Exception in thread "main" java.lang.UnsupportedOperationException: Invalid

at second.main(second.java:22)

3.Perform withdraw functionality with saving account object.

Raise InsufficientBalanceException if you are trying to withdraw more than balance.

**import** java.util.Scanner;

**class** InsufficientBalanceException **extends** RuntimeException

{

}

**public** **class** third

{

Scanner sc = **new** Scanner(System.***in***);

**public** **void** withdrawal(**double** a)

{

System.***out***.print("Enter your Id: ");

**long** id = sc.nextLong();

System.***out***.print("Enter your balance: ");

**double** b = sc.nextDouble();

**try** {

**if**(a<=b) {

b = b - a;

System.***out***.print("Balance= " + b);

}

**else**

{

**throw** **new** InsufficientBalanceException();

}

}

**catch** (InsufficientBalanceException e)

{

e.printStackTrace();

}

}

**public** **static** **void** main(String[] args)

{

// **TODO** Auto-generated method stub

third th = **new** third();

th.withdrawal(2000);

}

}

**OUTPUT:**

Enter your Id: 632

Enter your balance: 700

InsufficientBalanceException

at third.withdrawal(third.java:23)

at third.main(third.java:36)

Raise a illigalBankTransaction if you are trying to withdraw negative amount from account.

**import** java.util.Scanner;

**class** IllegalBankTransactionException **extends** RuntimeException

{

}

**public** **class** third\_2

{

Scanner sc = **new** Scanner(System.***in***);

**public** **void** withdrawal(**double** a)

{

System.***out***.print("Enter your Id: ");

**long** id = sc.nextLong();

System.***out***.print("Enter your balance: ");

**double** b = sc.nextDouble();

**try**

{

**if**(a>0)

{

System.***out***.println("Balance= " + b);

}

**else**

{

**throw** **new** IllegalBankTransactionException();

}

}

**catch** (IllegalBankTransactionException e)

{

e.printStackTrace();

}

}

**public** **static** **void** main(String[] args)

{

// **TODO** Auto-generated method stub

third\_2 t2 = **new** third\_2();

t2.withdrawal(-10201);

}

}

**OUTPUT:**

Enter your Id: 632

Enter your balance: -500

IllegalBankTransactionException

at third\_2.withdrawal(third\_2.java:25)

at third\_2.main(third\_2.java:38)