**Assignments on Exception Handling**

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

**public** **class** Arithmetic {

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

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

**try** {

**int** a,b;

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

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

a = sc.nextInt();

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

b = sc.nextInt();

System.***out***.println(a/b);

}

**catch**(ArithmeticException e)

{

System.***out***.println("Error raised when divided by zero"+ e);

}

}

}

**Output**

Enter the first number

20

Enter the second number

0

Error raised when divided by zero java.lang.ArithmeticException: / by zero

2.Carrying forward with the above problem, handled **Arithmetic Exception** by raising **Unsupported Operation Exception** as a solution.

**public** **class** Arithmetic {

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

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

try {

**int** a,b;

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

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

a = sc.nextInt();

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

b = sc.nextInt();

System.***out***.println(a/b);

}

**catch**(ArithmeticException e){

System.***out***.println("Exception Handled "+ e);

System.***out***.println("UnsupportedOperationException");

}

}

}

**Output:**

Enter the first number

20

Enter the second number

0

Exception Handled java.lang.ArithmeticException:/ by zero

UnsupportedOperationException

3.Perform withdraw functionality with saving account object.

i)Raise Insufficient Balance Exception if you are trying to withdraw more than balance.

ii)Raise Illegal Bank Transaction if you are trying to withdraw negative amount from account.

public class SavingAccount{

public static void main(String[] args) {

// TODO Auto-generated method stub

int id[]= {1234,1564,1257};

double amt[]= {500.0,1000.0,5000.0};

Scanner sc = new Scanner(System.in);

char ch;

int withd,depid;

double withdamt,val=0,depamt;

do {

System.out.println("\n \*\*\*Welcome to Savings Account Application\*\*\*");

System.out.println("a. Withdraw \n b. Deposit \n c. Exit ");

System.out.println("Enter your choice: ");

ch = sc.next().charAt(0);

switch (ch) {

case 'a':

System.out.println("\n \*\*\*Withdraw Module\*\*\*");

System.out.println("Enter your ID: ");

withd=sc.nextInt();

for(int i=0;i<id.length;i++) {

if(withd==id[i]) {

System.out.println("Your Balance: "+amt[i]);

System.out.println("Enter your withdrawal amount: ");

withdamt=sc.nextDouble();

if(withdamt <= amt[i] && withdamt > 0) {

System.out.println("Withdraw done Successfully");

val=amt[i]-withdamt;

System.out.println("Your Balance: "+val);

}

try {

if(withdamt > amt[i]) {

throw new Exception("InsufficientBalanceException");

}

if(withdamt < 0) {

throw new Exception("IllegalBankTransactionException");

}

}catch(Exception e){

System.out.println(e.getMessage());

}

break;

}

else {

if(i==(id.length-1)) {

System.out.println("Please enter valid ID");

}

}

}

break;

case 'b':

System.out.println("\n \*\*\*Deposit Module\*\*\*");

System.out.println("Enter your ID: ");

depid=sc.nextInt();

for(int i=0;i<id.length;i++) {

if(depid==id[i]) {

System.out.println("Your Balance: "+amt[i]);

System.out.println("Enter your deposit amount: ");

depamt=sc.nextDouble();

System.out.println("Deposit done Successfully");

val=amt[i]+depamt;

System.out.println("Your Balance: "+val);

break;

}

else {

if(i==(id.length-1)) {

System.out.println("Please enter valid ID");

}

}

}

break;

case 'c':

System.out.println("Have a great day!!");

break;

}

}

while (ch != (int)'c');

}

}

Output

\*\*\*Welcome to Savings Account Application\*\*\*

a. Withdraw

b. Deposit

c. Exit

Enter your choice:

a

\*\*\*Withdraw Module\*\*\*

Enter your ID:

1234

Your Balance: 500.0

Enter your withdrawal amount:

-144

IllegalBankTransactionException

\*\*\*Welcome to Savings Account Application\*\*\*

a. Withdraw

b. Deposit

c. Exit

Enter your choice:

a

\*\*\*Withdraw Module\*\*\*

Enter your ID:

1564

Your Balance: 1000.0

Enter your withdrawal amount:

2500

InsufficientBalanceException

\*\*\*Welcome to Savings Account Application\*\*\*

a. Withdraw

b. Deposit

c. Exit

Enter your choice:

b

\*\*\*Deposit Module\*\*\*

Enter your ID:

1257

Your Balance: 5000.0

Enter your deposit amount:

1000

Deposit done Successfully

Your Balance: 6000.0

\*\*\*Welcome to Savings Account Application\*\*\*

a. Withdraw

b. Deposit

c. Exit

Enter your choice:

c

Have a great day!!