import javax.microedition.lcdui.\*;  
import javax.microedition.midlet.MIDlet;  
public final class CalcMIDlet extends MIDlet implements CommandListener,ItemCommandListener  
{

private static final int NUM\_SIZE = 20;

private final Command exitCmd = new Command(“Exit”, Command.EXIT, 2);

private final Command add = new Command(“Add”, Command.ITEM, 1);  
private final Command sub = new Command(“Sub”, Command.ITEM, 1);  
private final Command mul = new Command(“Mul”, Command.ITEM, 1);  
private final Command div = new Command(“Div”, Command.ITEM, 1);

private final TextField t1 = new TextField(“A”, “”, NUM\_SIZE, TextField.DECIMAL);

private final TextField t2 = new TextField(“B”, “”, NUM\_SIZE, TextField.DECIMAL);

private final TextField tr = new TextField(“Result”, “”, NUM\_SIZE, TextField.UNEDITABLE);

private final Alert alert = new Alert(“Error”, “”, null, AlertType.ERROR);

private boolean isInitialized = false;

protected void startApp()  
{  
if (isInitialized)  
{  
return;  
}

Form f = new Form(“Calculator”);  
f.append(t1);  
f.append(t2);  
StringItem itema = new StringItem(“Add”, “”, Item.BUTTON);  
itema.setDefaultCommand(add);  
itema.setItemCommandListener(this);  
f.append(itema);  
StringItem items = new StringItem(“Sub”, “”, Item.BUTTON);  
items.setDefaultCommand(sub);  
items.setItemCommandListener(this);  
f.append(items);  
StringItem itemm = new StringItem(“Mul”, “”, Item.BUTTON);  
itemm.setDefaultCommand(mul);  
itemm.setItemCommandListener(this);  
f.append(itemm);  
StringItem itemd = new StringItem(“Div”, “”, Item.BUTTON);  
itemd.setDefaultCommand(div);  
itemd.setItemCommandListener(this);  
f.append(itemd);  
f.append(tr);  
f.addCommand(exitCmd);  
f.setCommandListener(this);  
Display.getDisplay(this).setCurrent(f);  
isInitialized = true;  
}

protected void destroyApp(boolean unconditional)  
{  
}

protected void pauseApp()  
{  
}

public void commandAction(Command c, Item item)  
{

//do not declare variables inside try…it will give you an error  
double res = 0.0;  
double n1 = getNumber(t1, “First”);  
double n2 = getNumber(t2, “Second”);  
try  
{  
if (c==add)  
res=n1+n2;  
if (c==sub)  
res=n1-n2;  
if (c==mul)  
res=n1\*n2;  
if (c==div)  
res=n1/n2;  
}  
catch (NumberFormatException e)  
{  
return;  
}  
catch (ArithmeticException e)  
{  
alert.setString(“Divide by zero.”);  
Display.getDisplay(this).setCurrent(alert);  
return;  
}

String res\_str = Double.toString(res);

if (res\_str.length() > tr.getMaxSize())  
{  
tr.setMaxSize(res\_str.length());  
}

tr.setString(res\_str);  
}

public void commandAction(Command c, Displayable d) //this method must be written otherwise it will give an error “CalcMIDlet is not abstract and does not override abstract method commandAction(javax.microedition.lcdui.Command,javax.microedition.lcdui.Displayable) in javax.microedition.lcdui.CommandListener”  
{  
if (c == exitCmd)  
{  
destroyApp(false);  
notifyDestroyed();  
return;  
}  
}

private double getNumber(TextField t, String type) throws NumberFormatException  
{  
String s = t.getString();

if (s.length() == 0)  
{  
alert.setString(“No ” + type + ” Argument”);  
Display.getDisplay(this).setCurrent(alert);  
throw new NumberFormatException();  
}

double n;

try  
{  
n = Double.parseDouble(s);  
}  
catch (NumberFormatException e)  
{  
alert.setString(type + ” argument is out of range.”);  
Display.getDisplay(this).setCurrent(alert);  
throw e;  
}

return n;  
}  
} // end of class ‘CalcMIDlet’ definition