//intro to basic subroutine

**public** **class** subroutines01 {

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

TextIO.*putln* ("hello from main ");

*sub1*();

TextIO.*putln* ("hello from main again ");

*sub1*();

*sub1*();

}//main

**public** **static** **void** sub1(){

TextIO.*putln* ("hello from sub1");

}

}//class

//subroutines (functions) that are returning values

**public** **class** subroutines02 {

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

*sub1*();

**int** anInt;

anInt = *sub2*();

**double** aDouble;

aDouble = *sub3*();

String aString;

aString = *sub4*();

TextIO.*putln* ("anInt is " + anInt);

TextIO.*putln* ("aDouble is " + aDouble);

TextIO.*putln* ("aString is " + aString);

}//main

// sub1 is void - it doesnt have to return a value

**public** **static** **void** sub1(){

TextIO.*putln* ("hello from sub1");

}

// sub2 is not void it is of type int- it has to return a value of type int

**public** **static** **int** sub2(){

TextIO.*putln* ("hello from sub2");

**int** y = 3;

**return** y;

}

// sub3 is not void it is of type double- it has to return a value of type double

**public** **static** **double** sub3(){

TextIO.*putln* ("hello from sub3");

**return** 3.00;

}

// sub4 is not void it is of type String- it has to return a value of type string

**public** **static** String sub4(){

TextIO.*putln* ("hello from sub4");

**return** "hello";

}

}//class

//subroutines and passing parameters

**public** **class** subroutines03A {

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

//send 2 actual parameters

*addTwoNumbers*(152, 3732) ;

**int** n1, n2;

TextIO.*putln*(" enter a whole number ");

n1 = TextIO.*getInt*();

TextIO.*putln*(" enter a whole number ");

n2 = TextIO.*getInt*();

//send 2 actual parameters

*addTwoNumbers*(n1, n2) ;

TextIO.*putln*(" enter a whole number ");

n1 = TextIO.*getInt*();

TextIO.*putln*(" enter a whole number ");

n2 = TextIO.*getInt*();

//send 2 actual parameters

*addTwoNumbers*(n1, n2);

}//main

//this function has 2 parameters passed to it

**public** **static** **void** addTwoNumbers(**int** number1, **int** number2){ //receives 2 formal parameters

TextIO.*putln*("number1 + number2"+ number1 + number2);

}//addTwoNumbers

}//class

**public** **class** subroutines03B {

//subroutines and passing parameters

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

//send 2 actual parameters

TextIO.*putln*( "the total of the two numbers is " + *addTwoNumbers*(152, 3732) );

**int** n1, n2;

TextIO.*putln*(" enter a whole number ");

n1 = TextIO.*getInt*();

TextIO.*putln*(" enter a whole number ");

n2 = TextIO.*getInt*();

//send 2 actual parameters

TextIO.*putln*( "the total of the two numbers is " + *addTwoNumbers*(n1, n2) );

TextIO.*putln*(" enter a whole number ");

n1 = TextIO.*getInt*();

TextIO.*putln*(" enter a whole number ");

n2 = TextIO.*getInt*();

//send 2 actual parameters

TextIO.*putln*( "the total of the two numbers is " + *addTwoNumbers*(n1, n2) );

}//main

//this function has 2 parameters passed to it

**public** **static** **int** addTwoNumbers(**int** number1, **int** number2){ //receives 2 formal parameters

**return** (number1 + number2); //returns an integer

}//addTwoNumbers

}//class

**public** **class** arrays01 {

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

**int** x; //declare variable of type int

**int**[] a; //declare array of type int

a = **new** **int**[5]; //create new array object size 5 (indexed 0 - 4)

x = 3; //initialise our variable x

a[0]=2; //initialise first place in our array

a[1]=5; //initialise first place in our array

a[2]=23; //initialise first place in our array

a[3]=233; //initialise first place in our array

a[4]=18; //initialise first place in our array

TextIO.*putln*( " x is " + x);

TextIO.*putln*( " a[0] is " + a[0]);

TextIO.*putln*( " a[1] is " + a[1]);

TextIO.*putln*( " a[2] is " + a[2]);

TextIO.*putln*( " a[3] is " + a[3]);

TextIO.*putln*( " a[4] is " + a[4]);

**for** (**int** i =0 ; i <5; i++){

TextIO.*putln*(a[i]);

}//for

}//main

}//class

**public** **class** arrays02 {

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

**int** x; //declare variable of type int

**int**[] a; //declare array of type int

a = **new** **int**[5]; //create new array object size 5 (indexed 0 - 4)

x = 3; //initialise our variable x

a[0]=2; //initialise first place in our array

a[1]=5; //initialise first place in our array

a[2]=23; //initialise first place in our array

a[3]=233; //initialise first place in our array

a[4]=18; //initialise first place in our array

TextIO.*putln*( " x is " + x);

**for** (**int** i =0 ; i <5; i++){

a[i]=*getArrayData*();

}

*displayArrayData*(a);

}//main

**public** **static** **int** getArrayData(){

**int** usersNumber;

TextIO.*putln*( "Enter a whole number ");

usersNumber = TextIO.*getInt*();

**return** usersNumber;

}//getArrayData

**public** **static** **void** displayArrayData(**int**[] theWholeArray){ //pass the whole array

**for** (**int** i =0 ; i <5; i++){

TextIO.*putln*("place " + i + " in the Array is " + theWholeArray[i]);

}

}//displayArrayData

}//class