

## CSE1322 Test 2 Practice Test

The questions in the test will present multiple choice answers.

### Question 1:

What is the output of the following code:

//Java:

```
String x="abc";  
for(int i=3;i<4;i++) {  
    x+="xyz";  
}  
System.out.println(x);
```

//C#:

```
string x="abc";  
for(int i=3;i<4;i++) {  
    x+="xyz";  
}  
Console.WriteLine(x);
```

**Question 2:**

What is the output of the following code?

//Java:

```
int x=3;
int y=7;
int z=10;
char a='b';
boolean maybe=false;
String w="low";

if((x+y>=z) && (maybe || w.equals("low"))) {
    System.out.println("a");
}
else {
    System.out.println("b");
}
```

//C#:

```
int x=3;
int y=7;
int z=10;
char a='b';
bool maybe=false;
string w="low";

if((x+y>=z) && (maybe || w.Equals("low"))) {
    Console.WriteLine("a");
}
else {
    Console.WriteLine("b");
}
```

**Question 3:**

What is a constructor used for?

**Question 4:**

What is the difference between a default constructor, and other constructors?

**Question 5:**

What does it mean to be an overloaded method?

**Question 6:**

What is the output of this code:

| Java   | C#  |
|--|---|
| <pre>class JustNumber {     public int x=3; }  class Main {     public static void changeX(int x) {         x++;     }      public static void changeJustNum(JustNumber x) {     x.x++; }      public static void main(String[] args) {         int x=3;         changeX(x);         System.out.println("X is "+x);          JustNumber a=new JustNumber();         changeJustNum(a);         System.out.println("Other x is "+a.x);     } }</pre> | <pre>using System;  class JustNumber {     public int x=3; }  class Program {     public static void changeX(int x) {         x++;     }      public static void changeJustNum(JustNumber x) {     x.x++; }      public static void Main (string[] args) {         int x=3;         changeX(x);         Console.WriteLine("X is "+x);          JustNumber a=new JustNumber();         changeJustNum(a);         Console.WriteLine("Other x is "+a.x);     } }</pre> |

**Question 7:**

What is the output of the following code:

| Java  | C#  |
|---|---|
| <pre>class Main {     public static int a(int x) {         return 7;     }      public static int a(char x) {         if(x=='a') {             return 8;         }         else {             return 9;         }     }      public static void main(String[] args) {         int answer=a(3)+a('b');         System.out.println(answer);     } }</pre> | <pre>using System;  class Program {     public static int a(int x) {         return 7;     }      public static int a(char x) {         if(x=='a') {             return 8;         }         else {             return 9;         }     }      public static void Main (string[] args) {         int answer=a(3)+a('b');         Console.WriteLine(answer);     } }</pre> |

**Question 8:**

Given the following code:

```
class X {
    private int a=7;

    protected int getA() {
        return a;
    }

    public void setA(int a) {
        this.a=a;
    }
}
```

Which lines in the following code will cause compile errors:

| Java  | C#  |
|---|---|
| <pre>class Y extends X {     public void b() {         a++; //Line 1         setA(9); //Line 2     } }</pre>  | <pre>class Y : X {     public void b() {         a++; //Line 1         setA(9); //Line 2     } }</pre>  |
| <pre>class Main {     public static void main(String[] args) {         X myX=new X();         Y myY=new Y();          myX.a=10; //Line 3         myX.setA(10); //Line 4         myY.a=11; //Line 5         myY.setA(12); //Line 6         myY.b(); //Line 7     } }</pre> | <pre>class Program {     public static void Main (string[] args) {         X myX=new X();         Y myY=new Y();          myX.a=10; //Line 3         myX.setA(10); //Line 4         myY.a=11; //Line 5         myY.setA(12); //Line 6         myY.b(); //Line 7     } }</pre> |

**Question 9:**

What is the name of the parent class for class X?

```
class X {  
    private int a=7;  
  
    public void setA(int a) {  
        this.a=a;  
    }  
}
```

**Question 10:**

Is the following valid?

```
abstract class X {  
    public int methodA() {  
        return 3;  
    }  
  
    public abstract int methodB() {}  
}
```

**Question 11:**

What is the difference between an overloaded method and an overridden method?

**Question 12:**

How many constructors can an abstract class have?

**Question 13:**

What is the output of the following code?

| Java   | C#  |
|--|---|
| <pre>class X {     private int a;      public X(int b) {         a=b;     }      public X(char c) {         a=10;     }      @Override     public String toString() {         return "a is "+a;     } }  class Y extends X {     public Y(int c) {         super('x');     }      public Y() {         super(3);     } }  class Main {     public static void main(String[] args) {         Y myY=new Y(3);         System.out.println(myY);     } }</pre> | <pre>using System;  class X {     private int a;      public X(int b) {         a=b;     }      public X(char c) {         a=10;     }      public override string ToString() {         return "a is "+a;     } }  class Y : X {     public Y(int c) : base('x') {     }      public Y() : base(3) {     } }  class Program {     public static void Main (string[] args) {         Y myY=new Y(3);         Console.WriteLine(myY);     } }</pre> |

**Question 14:**

What is the output of the following code?

| Java  | C#  |
|---|---|
| <pre>class Main {     public static int a(int myNum){         if (myNum &lt; 1) {             return 4;         }         else {             return myNum + a(myNum-3);         }     }      public static void main(String[] args) {         System.out.println(a(5));     } }</pre> | <pre>using System;  class Program {     public static int a(int myNum){         if (myNum &lt; 1) {             return 4;         }         else {             return myNum + a(myNum-3);         }     }      public static void Main (string[] args) {         Console.WriteLine(a(5));     } }</pre> |

**Question 15:**

If you wanted to write a recursive method that counts from the number passed in up to 100, what terminating condition would you add here:

```
class Main {
    public static void a(int myNum){
//WHAT GOES HERE???
        System.out.println(myNum);
        a(myNum+3);
    }
}

public static void main(String[] args) {
    a(25);
}
}
```

**Question 16:**

What is the output of the following code?

| Java  | C#   |
|---|--|
| <pre>class Main {     public static void do_stuff() {         int[] myNums = new int[10];         for(int i=0;i&lt;=10;i++) {             myNums[i]=i;         }     }      public static void main(String[] args) {         try {             do_stuff();             System.out.println("A");         }         catch(Exception e) {             System.out.println("B");         }     } }</pre> | <pre>using System;  class Program {     public static void do_stuff() {         int[] myNums = new int[10];         for(int i=0;i&lt;=10;i++) {             myNums[i]=i;         }     }      public static void Main (string[] args) {         try {             do_stuff();             Console.WriteLine("A");         }         catch(Exception e) {             Console.WriteLine("B");         }     } }</pre> |

**Question 17:**

Given the following code:

| Java   | C#   |
|--|--|
| <pre>class Main {     public static void do_stuff(int x) throws     Exception {         int[] myArray=new int[10];         if(x&lt;0) {             throw new Exception("X&lt;0");         }         else {             for(int i=0;i&lt;=x;i++) {                 myArray[i]=i+x;             }         }         System.out.println(myArray[x]);     }      public static void main(String[] args) {         try {             do_stuff(-1); //Line 1             do_stuff(9); //Line 2             do_stuff(10); //Line 3         }         catch(IndexOutOfBoundsException e) {             System.out.println("Error 1");         }         catch(Exception e) {             System.out.println("Error 2");         }     } }</pre> | <pre>using System;  class Program {     public static void do_stuff(int x) {         int[] myArray=new int[10];         if(x&lt;0) {             throw new Exception("X&lt;0");         }         else {             for(int i=0;i&lt;=x;i++) {                 myArray[i]=i+x;             }         }         Console.WriteLine(myArray[x]);     }      public static void Main (string[] args) {         try {             do_stuff(-1); //Line 1             do_stuff(9); //Line 2             do_stuff(10); //Line 3         }         catch(IndexOutOfRangeException e) {             Console.WriteLine("Error 1");         }         catch(Exception e) {             Console.WriteLine("Error 2");         }     } }</pre> |

What is the output of the code?

**Question 18:**

If you comment out Line 1 in the previous code, then what is the output of that code?

**Question 19:**

What is the content of a.txt after the following code executes?

| Java  | C#   |
|---|--|
| <pre>import java.io.*;  class Main {     public static void write_file(String filename, String line, int x) {         try {             File myFile=new File(filename);             PrintWriter theFile = new PrintWriter(myFile);             for(int i=0;i&lt;x;i++) {                 for(int j=0;j&lt;x;j++) {                     theFile.print(line+" ");                 }                 theFile.println();             }             theFile.close();         }         catch(IOException e) {             System.out.println("Error writing file: "+e.getMessage());         }     }      public static void main(String[] args) {         write_file("A.txt","Test",4);     } }</pre> | <pre>using System; using System.IO;  class Program {     public static void write_file(String filename, String line, int x) {         try {             StreamWriter theFile = new StreamWriter(filename);             for(int i=0;i&lt;x;i++) {                 for(int j=0;j&lt;x;j++) {                     theFile.Write(line+" ");                 }                 theFile.WriteLine();             }             theFile.Close();         }         catch(IOException e) {             Console.WriteLine("Error writing file: "+e.Message);         }     }      public static void Main (string[] args) {         write_file("A.txt","Test",4);     } }</pre> |

**Question 20:**

What line is missing below, if this code is to read a file A.txt and print it to the screen?

| Java  | C#   |
|---|--|
| <pre>import java.io.*; import java.util.Scanner;  class Main {     public static void readFile(String fn) {         try {             File myFile=new File(fn);             Scanner myScan=new Scanner(myFile);             while(//WHATS MISSING HERE??) {                 String line=myScan.nextLine();                 System.out.println(line);             }         }         catch(Exception e) {             System.out.println("Error");         }     }      public static void main(String[] args) {         readFile("A.txt");     } }</pre> | <pre>using System; using System.IO;  class Program {     public static void readFile(string fn) {         try {             StreamReader myScan=new             StreamReader(fn);             while(//WHATS MISSING HERE??) {                 string line=myScan.ReadLine();                 Console.WriteLine(line);             }         }         catch(Exception e) {             Console.WriteLine("Error");         }     }      public static void Main (string[] args) {         readFile("A.txt");     } }</pre> |

**Question 21:**

| Java   | C#   |
|--|--|
| <pre>class DoStuff implements Runnable {     public void run() {         System.out.println("Running");     } }  class Main {     public static void main(String[] args) {         DoStuff myStuff=new DoStuff();         Thread x = new Thread(myStuff);         //What's missing here?     } }</pre> | <pre>using System; using System.Threading;  class DoStuff {     public void run() {         Console.WriteLine("Running");     } }  class Program {     public static void Main (string[] args) {         DoStuff myStuff=new DoStuff();         ThreadStart myTS=new ThreadStart(myStuff.run);         Thread x=new Thread(myTS);         //What's missing here?     } }</pre> |

How do you correctly start the thread x?