CSE1322 Test 3 Practice Test

Test 3 will cover modules 1-9 (it is cumulative). The questions in the test will present multiple choice answers. You can make up your own possible answers below:

Question 1:
What is the output of the following code:
```
int i=2;
int y=10;
while(i<15) {
  i+=2;
  y+=i;
}
Println(y);
}
```

Question 2:
What is the output of the following code?
//Java:

```java
  boolean happy=true;
  int z=7;

  for(int i=0;i<5;i++) {
   if(i%2==0) {
     happy=!happy;
   }
   z+=1;
  }

  if((z>13) && (happy)) {
   System.out.println("Yes!");
  }
  else {
   System.out.println("No!");
  }
 }
```

//C#:

```csharp
  bool happy=true;
  int z=7;

  for(int i=0;i<5;i++) {
   if(i%2==0) {
     happy=!happy;
   }
   z+=1;
  }

  if((z>13) && (happy)) {
   Console.WriteLine("Yes!");
  }
  else {
   Console.WriteLine("No!");
  }
 }
```

Question 6:
What is the output of this code:

```
class JustNumber {
  public char x='c';
}

class Main {
  public static void changeX(char x) {
    x++;
  }

  public static void changeJustNum(JustNumber x) {
    x.x++;
  }

  public static void main(String[] args) {
    char x='a';
    changeX(x);
    Println("X is "+x);

    JustNumber a=new JustNumber();
    changeJustNum(a);
    Println("Other x is "+a.x);
  }
}
```

Question 7:

What is the output of the following code:

Java	C#
| ```
class Main {
  public static int a(int x) {
    return 2;
  }

  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);
  }
}
``` | ```
using System;

class Program {
  public static int a(int x) {
    return 2;
  }

  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);
  }
}
``` |

Question 8:
Given the following code:

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

  protected int getA()   ti ti
```

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:
What does the following code output:

```
class oneClass {
  public int x;

  public oneClass() {
    x=5;
  }

  public char x() {
    return 'A';
  }
}

class Main {
  public static void main(String[] args) {
    int x=2;
    OneClass y = new OneClass();

    print(x);
    print(y.x);
    print(y.x());
  }
}
```

Question 13:
What is the output of the following code?

Java   C#

```
class X {
  private int a;

  public X(int b) {
    a=b;
  }

X(u,
public  i
```

Question 14:
What is the output of the following code?

Java

```java
class Main {
  public static int a(int myNum){
    if (myNum < 1) {
      return 4;
    }
    else {
      return myNum + a(myNum-3);
    }
  }

  public static void main(String[] args) {
    System.out.println(a(5));
  }
}
```

C#

```csharp
using System;

class Program {
  public static int a(int myNum){
    if (myNum < 1) {
      return 4;
    }
    else {
      return myNum + a(myNum-3);
    }
  }

  public static void Main (string[] args) {
    Console.WriteLine(a(5));          n
  }
}
```

Question 15:
What line is miss*Numva

Question 16:
What is the output of the following code?

Java	C#
| ```java
class Main {
  public static void do_stuff() {
    int[] myNums = new int[10];
    for(int i=0;i<=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");
    }
  }
}
``` | ```csharp
using System;

class Program {
  public static void do_stuff() {
    int[] myNums = new int[10];
    for(int i=0;i<=10;i++) {
      myNums[i]=i;
    }
  }

  public static void Main (string[] args) {
    try {
      do_stuff();
      Console.WriteLine("A");
    }
    catch(Exception e) {
      Console.WriteLine("B");
    }
  }
}
``` |

Question 17:
Given the following code:

Java	C#
| ```java
class Main {
  public static void do_stuff(int x) throws
Exception {
    int[] myArray=new int[10];
    if(x<0) {
      throw new Exception("X<0");
    }
    else {
      for(int i=0;i<=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");
    }
  }
}
``` | ```csharp
using System;

class Program {
  public static void do_stuff(int x) {
    int[] myArray=new int[10];
    if(x<0) {
      throw new Exception("X<0");
    }
    else {
      for(int i=0;i<=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");
    }
  }
}
``` |

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#
| ```
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<x;i++) {
        for(int j=0;j<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);
  }
}
``` | ```
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<x;i++) {
        for(int j=0;j<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);
  }
}
``` |

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#

Question 21:

Java	C#
| ```java
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?
  }
}
``` | ```csharp
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?
  }
}
``` |

How do you correctly start the thread x?

Question 22:
What is the difference between an interface and an abstract class?

Question 23:
What does this return:
```
class Main {
  public static void main(String[] args) {
    float y=54.2f;
    char x = (char)y;

    Print(x);

  }
}
```

Question 24:
Where is 0,0 in a graphical window?

Question 25:

What color is represented by 0000FF?

Question 26:
When does an event happen in a GUI?

Question 27:
What is the advantage of a linked list over an ArrayList/List?

Question 28a:
True/False:
It will take the same amount of time to find a random item in an array, as it will a linked list?

Question 28b:
What if both the array and linked list are sorted. Does that change the answer?

Question 28c:
Is it faster to get an item out of a BST or a sorted array?

Question 28d:
Which is faster to insert into:
a) Unsorted Array
b) Sorted Array
c) Unsorted Linked List
d) Sorted Linked List
e) BST

Question 29:
Given the following linked list:

What is the value of head.next.next.data?