Unit 1 – ICS3U0 – Introduction to Java

Sample Test, Wednesday February 18, 2026

Name: _____

Total	Knowledge	Communication	Thinking	Application
(100)	(30)	(22)	(25)	(23)

Knowledge

1. Answer the following questions: /6

	Instruction	Data	Answer
(a)	Translate from our number system to binary.	18	16 8 4 2 1
(b)	Translate to binary.	B (which is 66)	64 32 16 8 4 2 1
(c)	Translate from Unicode to binary.	1439	8 4 2 1 1 4 3 9
(d)	Translate from binary to hexadecimal.	1010 1110	
(e)	Translate from hexadecimal to binary.	B5	8 4 2 1 B 5
(f)	What letter is this ASCII?	1000111	

2. If x is 8 and y is 2, evaluate the following. (circle the correct answer) /8

True False Error a) 1<x<5

True False Error b) !(x=y)

True False Error c) x!=3 || ==2

True False Error d) y=>4

True False Error e) x=y

True False Error f) y<=x

True False Error g) x==x

True False Error h) (x!=0) || (x==0)

3. If x is 8 and y is 2, then what are the values of the following? Show all of the steps. /4

a) `x > 3 || y != 9`

`= ____> 3 || ___ != 9`

`= ____ || ____`

`= ____`

b) `x < y && !(x == 1)`

`= ___ < ____ && !(___==1)`

`= ___ && !____`

`= ___ && ____`

`= ___`

4. Write a Boolean expression to represent each of the following: /3

a) x does not equal 50 _____

b) x is between 40 and 50 _____

c) x is less than 40 or greater than 50 _____

5. The following questions are based on this class. /9

```
public class ifs
{
  public static void main (String args[])
  {
     new ifs ();
  }

 public ifs ()
 {
   int num = IO.inputInt ("Number? ");

   if (num == 1)
     System.out.print ("Boone-Iron");
   else if (num > 30)
     System.out.print ("Carver-Crops");
   else if (num == 14)
     System.out.print ("Dean-IBM Chip");

   if (num < 3)
     System.out.print ("Morgan-Safety");
   else
     System.out.print ("Walker-Hair");
  }
}
```

Identify the following in the code:

(a)	What is the class name?	
(b)	Identify a Boolean expression.	
(c)	What type of variable is declared?	
(d)	What should the file be saved as?	

What is printed for each of the following inputs?

num is 1	
num is 30	
num is 31	
num is 14	
num is -2	

Communication

6. Fill in the blanks in the Madlibs story's constructor after looking at the output below. /6

Input/Output

```
Enter a number: 99
Enter another number: 1
Enter yet another number: 12
Enter an adjective: smelly
Enter a place: fire department
```

```
House for Sale! Very smelly!!!

This smelly house has 99 bedroom(s) and
1 bathroom(s). It is conveniently located
near the local fire department which buyers
will find very smelly. Cost = $12
```

```
  public House ()
  {
    int num1 = IO.input__________ ("Enter a number: ");
    int num2 = IO.inputInt ("Enter another number: ");
    ______ num3 = IO.inputInt ("Enter yet another number: ");
    ________ adj = IO.inputString ("Enter _____________________: ");
    String place = IO.inputString ("Enter a place: ");
    System.out.println ("\nHouse for Sale! Very "+______+"!!!\n");
    System.out.println ("This " + _____ + " house has " + _____ + " bedroom(s) and ");
    System.out.println (_____ + " bathroom(s). It is conveniently located ");
    System.out.println ("near the local " + ________ + " which buyers ");
    System.out.println ("will find very " + _______ + ". Cost = $" + ________);
    }
}
```

7. Provide the term for each definition. /8

		The creation of a new variable. Eg. int x = 0;
		The name of the method that starts the program.
		The name of the method where you place your code.
		The way to write π in java.
		The way to write x^2 in java.
		The first keyword that appears in a java program.
		A control structure that is a decision statement in java.
		The name of an expression that evaluates to true or false.

8. Why are each of the following variable names inappropriate? /4

`GarretMorgan!` .....

`int` .....

`traffic light` .....

`4safety` .....

9. What is similar between Unicode and ASCII? What is different?
(two questions, one sentence for each) /2

.....

.....

.....

.....

.....

10. Why aren't all variables stored as Strings? (2 points, one sentence for each) /2

.....

.....

.....

.....

.....

Thinking 

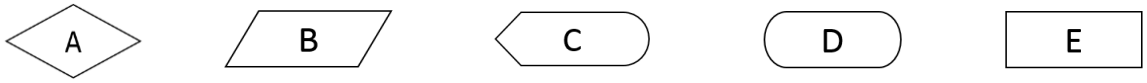
11. Assume all numbers are integers. What are the answers to the following questions? /4

`10/5`	`7/0`	`10/24`	`203/1`
`10%5`	`7%0`	`10%24`	`203%1`

12. Classify each piece of input with the most appropriate type. /4

(a) Johnson		(c) 45.3		(e) (905) 453-9220	
(b) -111		(d) y		(f) L4V 5E6	

13. Match the flowchart symbol with its description AND the statement that might appear in it. /7



_____ Process

_____ Terminal

_____ Input

_____ Output

_____ Decision

_____ `System.out.println("Programming!");`

_____ `x >= 90`

_____ `int age = IO.inputInt("Age? ");`

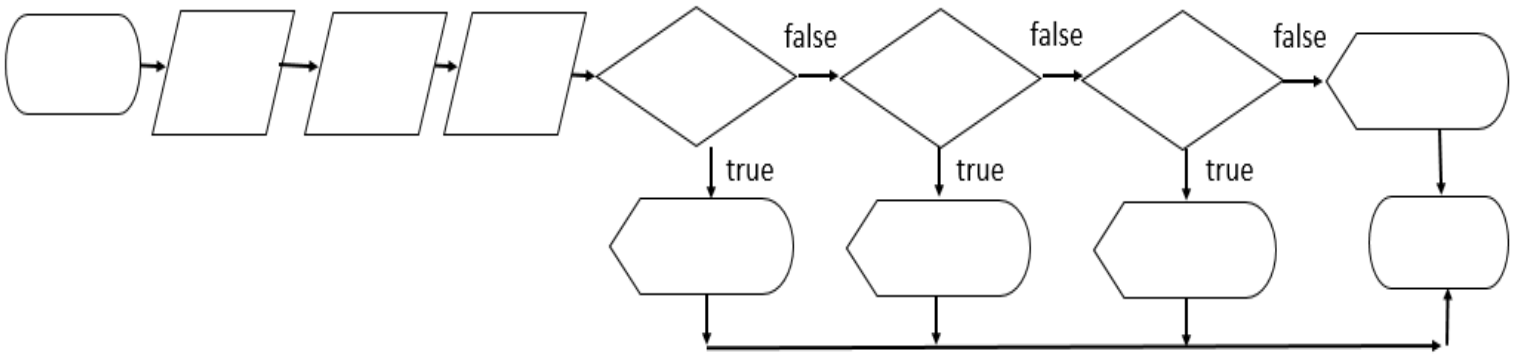
_____ `tax = total * 0.13;`

_____ End

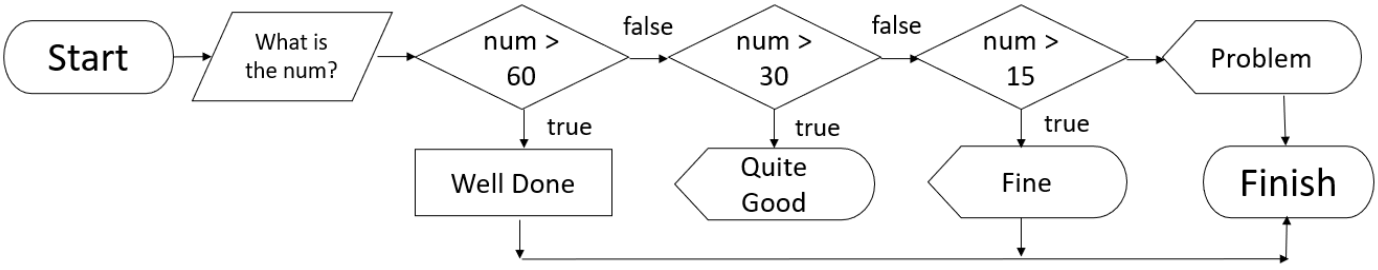
14. Use the code to fill in the blanks on the flow chart below. /5

The Code:

```
int a1 = IO.inputInt ("Angle #1? ");
int a2 = IO.inputInt ("Angle #2? ");
int a3 = IO.inputInt ("Angle #3? ");
if ((a1 + a2 + a3) != 180)
    System.out.println ("Error");
else if (a1 == a2 && a2 == a3)
    System.out.println ("Equilateral");
else if (a1 == a2 || a2 == a3 || a1 == a3)
    System.out.println ("Isosceles");
else
    System.out.println ("Scalene");
```



15. Circle **and correct** 5 errors in this flowchart. /5

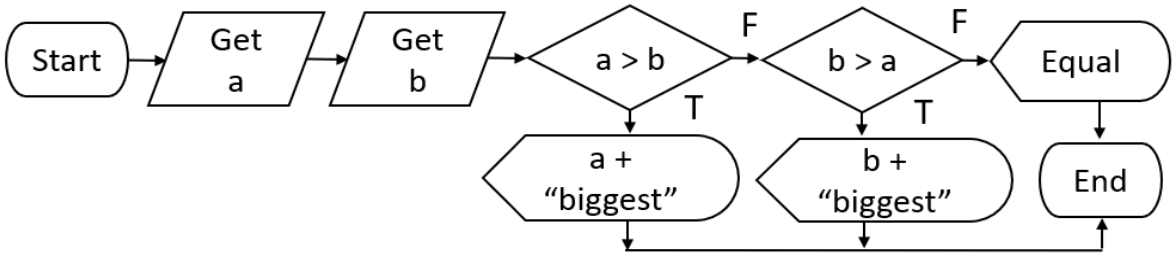


Application

Sample runs of the program are shown.

The user input is underlined. Format output **exactly** as shown.

16. Write code that would result from this flowchart. (a and b are integers) /5




```
public _________________ (){
_______  ____ = IO._________________("_____________________________________");
_______  ____ = IO._________________("_____________________________________");
if(_____________________________)
    _____________.out._______________(_____+ "____________________");
else if(_____________________________)
    _____________.out._______________(_____+ "____________________");
else
    _____________.out._______________("____________________");
}
```

17. A day has 86,400 seconds, an hour has 3,600 seconds and a minute has 60 seconds. Calculate the number of days, hours, minutes and seconds from a very large number of seconds. /6

```
How many seconds? 286463
That is 3 days, 7 hours, 34 minutes and 23 seconds.
```

```
int sec = IO.input_____________("___________________________________");
int day = _____________________________;
sec = _____________________________;
int hour = _____________________________;
sec = _____________________________;
int min = _____________________________;
sec = _____________________________;
System.out.print("_____________" + _______ + "__________" + _______ + "hours, ");
System.out.println(_________ + "_________________" + ________ + "_____________");
```

18. Dorothy Vaughn is running in a by-election against Mary Jackson.
Make a program that asks how many votes each candidate received. The user input is underlined.
Calculate the percentage of votes for Vaughn and for Jackson.
Also, print out who won the election: **Don't forget that they might tie**. /12

Hint: Remember \t and \n.

Format output **exactly** as shown.

```
Enter the number of votes for Vaughn: 1276
Enter the number of votes for Jackson: 952

Total Votes:      2228
Vaughn:           57.27 %
Jackson:          42.73 %

Vaughn won.
```

```
int v = IO.input_________("_____________________________________________________________");

int j = IO.input_________("_____________________________________________________________");


int total = ____________________________________________;

double v_percent = _____________________________________________;

double j_percent = _____________________________________________;


System.out.println("_____________________________" + _________________);

System.out.println("_____________________________" + _____________________ + "_____");

System.out.println("_____________________________" + _____________________ + "_____");

System.out.println();


if (_____________________________)

   System.out.println("_____________________________________");

else if (_____________________)

   System.out.println("_____________________________________");

else

   System.out.println("_____________________________________");
```