

INFO1103: Introduction to Programming
Semester 1 – 2017
Quiz 1 – Sample

Name: _____

SID: _____

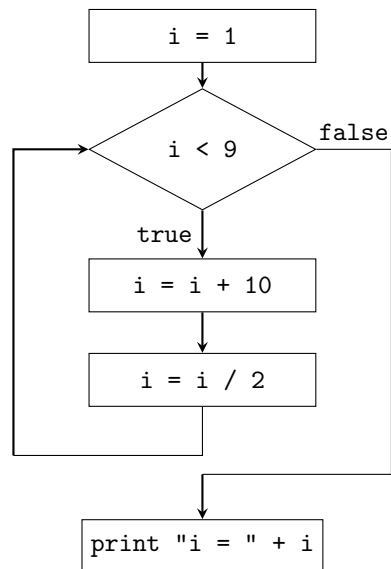
Tutorial: _____

Question 1 [20 marks]:

N/A

Question 2 [10 marks]:

What is the output of the following program?



- a) Produce a deskcheck of this program showing a new line for each change.

i	console
1	
11	
5	
15	
7	
17	
8	
18	
9	
9	i = 9

- b) What is the output of the program? `i = 9`

Question 3 [10 marks]:

Read the following code.

```
1  int index = 0;
2  int y = 1;
3  while (index < 6) {
4      y = y + index;
5      index = index + 2;
6  }
7  System.out.println("y is " + y);
```

a) Produce a deskcheck of this program showing a new line for each change.

index	y	console
0	1	
0	1	
2	1	
2	3	
4	3	
4	7	
6	7	
6	7	y is 7

b) What is the output of the program? **y is 7**

Question 4 [20 marks]:

- a) What kind of data type is most suitable for the variable `xValue`?

```
1 xValue = 47;
```

`int`

- b) In an `if` statement, will the next block of code execute if the condition is `true` or `false`?

`true`

- c) Identify the errors in the following code.

```
1 public class CaseTest {
2     public static void Main(String[] args) {
3
4         double x = (double) ( (int)( 15.0f / (double)2 ) ) ;
5         if ( x < 2 || x > 5 );{
6             int fx = (int)(x) % 3;
7             x *= fx;
8         }
9         System.out.println("x: " + x)
10    }
11 }
```

logic error: line 3, capital 'M' for main (we can assume they want to run main)

logic error: line 6, semicolon after if statement, block always executes

syntax error: line 7, missing semicolon after print on

logic error: lines 4-5, hard coded numbers means if statement is always true

- d) Give an example of an `Exception` and how it is used.

Full marks for show generating **and** handling exception.

Generating: When opening a file that does not exist.

```
1 void someMethodDoingFileReading() throws FileNotFoundException
2 {
3     ...
4     // try open the file
5     Scanner readFile = new Scanner( new File("dolphin.txt") );
6     ...
7     // do things with file
8 }
```

Handling: When opening a file that does not exist.

```
1 try {
2     someMethodDoingFileReading();
3 } catch (FileNotFoundException fnfe)
4     System.err.println("could not open the file");
5 }
```

Easier examples are "String to int" or "Array index out of bounds"

Question 5 [30 marks]:

Write a loop to search for the number 7 in an array. When the number is found, return the index of the 7. If the number is not found, return -1.

```
int searchFor7(int[] array) {  
1   boolean found = false;  
2   int i = 0;  
3   while ( i < array.length )  
4   {  
5       if (array[i] == 7) {  
6           found = true;  
7           break;  
8       }  
9       i++;  
10  }  
11  if (found)  
12      return i;  
13  
14  return -1;  
}
```

```
}
```