**CS 1301**

**Exam 3 (40pts)**

**Name:**

1. What is the output of the following code snippet? (2pt)

int x = 1;

while(x < 100){

x = x \* 2;

}

System.out.print(x);

128

1. What output is produced by the following code fragment? (3pts)

for(int i1 = 1; i1 < 7; i1 += 2)

System.out.print (i1 + "\t");

1 3 5

1. Given the code below. What is the output? (3pts)

int n = 0;

for (int k = 0; k < 10; k++){

for (int m = 15; m > 5; m--){

n++;

}

}

System.out.println ("N = " + n);

N = 100

1. How many times will the following loop iterate? (2pts)

int x = 10;

do {

System.out.println(x);

x--;

} while (x > 0);

10

1. What output is produced by the following code fragment? (4pts)

int num = 0;

int max = 12;

while (num < max) {

num +=3;

if (num == max/2)

continue;

System.out.print(num + "\t");

}

3 9 12

1. What output is produced by the following code fragment? (4pts)

int number = 12;

while (number > 0) {

number = number - 3;

if (number = = 3)

break;

System.out.print (number+"\t");

}

9 6

1. True or false: The body of a do-while loop is always executed at least once. (1pt)
2. True or false: The body of a for loop is always executed at least once. (1pt)
3. Given that s is a String, what does the following loop do? (2pts)

for(int j = s.length(); j > 0; j--)

System.out.print(s.charAt(j-1));

a. it prints s out backwards

b. it prints s out forwards

c. it prints s out backwards after skipping the last character

d. it prints s out backwards but does not print the 0th character

e. it yields a run-time error because there is no character at s.charAt(j-1) for j = 0

1. If x is an int where x = 0, what will x be after the following loop terminates? (2pt)

while(x < 100)

x = x \* 2;

a. 2

b. 64

c. 100

d. 128

e. None of these, this is an infinite loop

1. Write a program that prompts the user to enter the number of students and each student’s name and score. The program finally displays the student with the highest score. (8pts)

1 import java.util.Scanner;  
 2   
 3 public class Q1  
 4 {  
 5 public static void main(String []args)  
 6 {  
 7 Scanner input = new Scanner(System.in);  
 8 Scanner inputStr = new Scanner(System.in);  
 9   
10 System.out.println("Enter the number of the students: ");  
11 int num = input.nextInt();  
12   
13 String name = "";  
14 double score = -1;  
15   
16 for(int i = 0; i < num; i++)  
17 {  
18 System.out.println("Enter Name: ");  
19 String currentName = inputStr.nextLine();  
20 System.out.println("Enter Grade: ");  
21 double currentScore = input.nextDouble();  
22   
23 if (currentScore > score)  
24 {  
25 name = currentName;  
26 score = currentScore;  
27 }  
28 }  
29   
30 System.out.println(name+": "+score);  
31 }  
32 }

1. Write a program that finds the sum of the first n odd positive numbers using loop. For example, if n = 4, the output will be 16 as 1+3+5+7 = 16. (8pts)

1 import java.util.Scanner;  
 2   
 3 public class Q1  
 4 {  
 5 public static void main(String []args)  
 6 {  
 7 Scanner input = new Scanner(System.in);  
 8 System.out.println("Enter an integer number:");  
 9 int num = input.nextInt();  
10   
11 int sum = 0;  
12 int i = 1;  
13   
14 while(i < 2\*num-1)  
15 {  
16 System.out.print(i+"+");  
17 sum += i;  
18 i += 2;  
19 }  
20   
21 sum += 2\*num-1;  
22 System.out.print((2\*num-1)+" = "+sum);  
23 }  
24 }