**CS 3335**

**HW2**

**25 points**

**Due Wednesday, Sep 14, 2022**

**Please submit a .zip file with one pdf that has all your written answers and a .c file for your answer to problem 9**

1. What is the output of the code? (4 pts)

int k, j = 0;

while ( j< 2 )

{

k = 0;

while ( k< 3)

{

printf( “hello\n”);

k++;

}

j++;

printf(“goodbye\n”);

}

**Answer:**

**hello**

**hello**

**hello**

**goodbye**

**hello**

**hello**

**goodbye**

1. The body of a for loop is always executed at least once. True or false? (1pt)

**Answer: False**

1. The body of a do-while loop is always executed at least once. True or false? (1pt)

**Answer: True**

1. What is the value of someInt after control exits the following loop? (1pts)

someInt = 270;

while (someInt> 500)

someInt = someInt - 3;

a. 270

b. 273

c. 497

d. 500

e. none of the above--this is an infinite loop

**Answer:**

1. **270**
2. With respect to the loop in the following main function, what is missing? (1pt)

int main()

{

int loopCount;

while (loopCount<= 8)

{

printf("Hi");

loopCount++;

}

return 0;

}

1. The initialization of the loop control variable
2. The testing of the loop control variable
3. The incrementation of the loop control variable
4. Nothing is missing

**Answer:**

1. **The initialization of the loop control variable**
2. What is the output of the following program? [1 pts]

#include <stdio.h>

int main()

{

int i=204;

switch (i % 5)

{

case 1:

printf("Case1 ");

case 2:

printf("Case2 ");

case 3:

printf("Case3 ");

case 4:

printf("Case4 ");

default:

printf("Default ");

}

return 0;

}

**Answer:**

**Case4 Default**

1. What is the output of: 3 pts

int k, j = 0;

while ( j < 4 )

{

k = 0;

while ( k < 4)

{

k++;

if (k == 2 && j ==3)

break;

printf( "k=%d\n", k);

}

j++;

printf("j=%d\n",j);

}

**Answer:**

**K=4**

**J=3**

**K=1**

**J=4**

1. What is while(1) an example of: (1pt)

A. Loop that is never executed

B. A selection statement

C. An infinite loop

D. Code that generated compilation error

**Answer:**

**A. Loop that is never executed**

1. Submit this problem as a .c file named sum\_digits.c. (12 points)

Write a program that asks the user to enter a positive integer number < 32000 and then compute the sum of its digits:

**Sample input and output:**

Enter a number less than 32000: 1234

Sum of digits: 10

*Grading is:*

*1 points for submitting valid code*

*2 points comment and indentation*

*2 points for successful compilation with no warnings*

*2 points for executing on the sample input and getting correct answer on it*

*5 points for other test cases that I will make*