<u>Instructions</u>: This is a closed book, closed note, and closed computer test. Please write your answer (A, B, C, or D) clearly in the Answer column. Please ensure your name is written above. Turn in your test when you are completed.

Problem	Question	Choices	Answer
1	When developing software, what order should be followed in doing the following tasks: (i) Write stub code for all functions (ii) Implement a single function (iii) Create a structure chart to identify all functions (iv) Write driver code in the main function to test a single function	a) (i), (ii), (iii), (iv) b) (iii), (i), (ii), (iv) c) (ii), (iv), (i), (iii) d) (iv), (iii), (ii), (i)	

2	What is the output of the following code:
	
	int sum = 0;
	int i = 1;
	while (i <= 10)
	{
	  if (i % 3 == 0)
	  {
	    sum += i;
	  }
	  i++;
	}
	cout << sum;
		a) 9
		b) 18
		c) 36
		d) 55	

3	What will the following code do?
	
	int i = 1;
	while (i >= 100)
	{
	  cout << i << endl;
	  i++;
	}
		a) Print the number 1 to 100
		b) Print the number 1 to 99
		c) Print the number 1 forever
		d) Print nothing	

4	Which of the following loops can be used to print the numbers from 100 down to 1 with the following code inside the for loop: cout << i << endl;	a) for (int i=100; i>0; i--) b) for (int i=100; i<0; i--) c) for (int i=100; i>=0; i--) d) for (int i=100; i<=0; i--)	
5	What loop would you use if you know exactly how many times to iterate?	a) While Loop b) Do While Loop c) For Loop d) Not a good candidate for a loop	

Problem	Question	Choices	Answer

6	Consider the following code which has a coding error (not a compiler error):
	
	`int x;`
	`int sum = 1;`
	`do`
	`{`
	`  cout << "Enter number: ";`
	`  cin >> x;`
	`  sum += x;`
	`}`
	`while (x != 0);`
	`cout << sum;`
	
	What value of sum will be displayed if the user enters the following numbers when prompted: 3, 5, 2, and 0?
		a) 0
		b) 10
		c) 11
		d) Random Number	

7	What loop would you use if you don't know how many times to iterate but you know you want to iterate at least once?	a) While Loop b) Do While Loop c) For Loop d) Not a good candidate for a loop	

8	What is the output of the following code:
	
	`int cells = 5;`
	`for (int i=1; i<4; i++)`
	`{`
	`  cells *= 2;`
	`}`
	`cout << cells;`
		a) 20
		b) 40
		c) 80
		d) 160	

9	When is the value of "i" incremented in this loop?
	
	`int sum = 0;`
	`for (int i=0; i<100; i++)`
	`{`
	`  sum += i;`
	`}`
		a) Once before the for loop
		b) Every time before updating the variable sum
		c) Every time after updating the variable sum
		d) Once after the for loop	

10	How many times will the following loop run?
	
	`for (int i=10; i>-10; i--)`
	`{`
	`  // Do something`
	`}`
		a) 19
		b) 20
		c) 21
		d) Infinite	