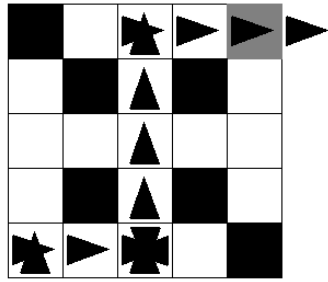
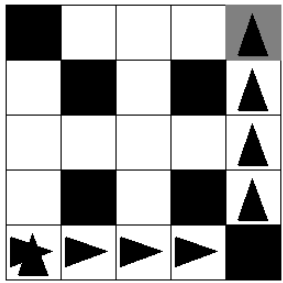
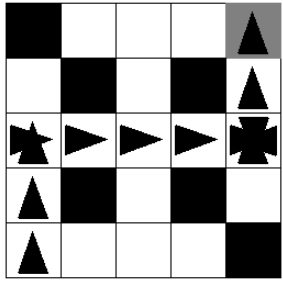


Question 01	D	
A	Incorrect	I and III are also correct.
B	Incorrect	III is also correct.
C	Incorrect	I is also correct.
D	Correct	All 3 reasons (I, II and III) are correct as stated.

Question 02	A	
A	Correct	<p>This code properly directs the robot from the start to the destination following all of the rules as is shown in the figure to the right.</p> <p>Note: At the point where the robot needs to make a left turn (which it is not allowed to do) it makes 3 right turns instead.</p>
B	Incorrect	This code may seem to work, but it breaks a rule by using ROTATE_LEFT().
C	Incorrect	This code may seem to work, but it breaks a rule and goes through a black box as is shown in the figure to the right.
D	Incorrect	This code starts out alright, but at the very end it moves forward one too many times and goes outside the grid as is shown in the figure to the right.



Question 03	A	
A	Correct	A call from anyone asking for your personal information is usually a sign of phishing.
B	Incorrect	This is fine because you know you have a loan at the bank and you are physically going to your bank to sign the papers.
C	Incorrect	This is fine because the email contains personal identifying information and is not asking you to send any information in response. It only wants you to reset your password which does not give out any information.
D	Incorrect	This is fine because all they ask is if you made these three purchases. This does not provide them with any of your personal information.

Question 04		D																
A	Incorrect	<p>We will convert all numbers to base 10 for simplicity. The first number, 100, is already in base 10. The second number, 1100100 (base-2) can be converted with this chart:</p> <table border="1"> <tr> <td>128</td> <td>64</td> <td>32</td> <td>16</td> <td>8</td> <td>4</td> <td>2</td> <td>1</td> </tr> <tr> <td></td> <td>1</td> <td>1</td> <td>0</td> <td>0</td> <td>1</td> <td>0</td> <td>0</td> </tr> </table> <p>We get $64 + 32 + 4$ which equals 100. The third number, 64 (base-16), can be converted with this calculation: $6 * 16 + 4 = 96 + 4 = 100$ All 3 numbers are 100, so they are not "ascending".</p>	128	64	32	16	8	4	2	1		1	1	0	0	1	0	0
128	64	32	16	8	4	2	1											
	1	1	0	0	1	0	0											
B	Incorrect	<p>We will convert all numbers to base 10 for simplicity. The first number, FF (base-16), can be converted with this calculation: $F * 16 + F$ (substitute 15 for F) = $15 * 16 + 15 = 240 + 15 = 255$. The second number, 255, is already in base 10. The third number, 11111111 (base-2) can be converted with this chart:</p> <table border="1"> <tr> <td>128</td> <td>64</td> <td>32</td> <td>16</td> <td>8</td> <td>4</td> <td>2</td> <td>1</td> </tr> <tr> <td>1</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> </tr> </table> <p>We get $128 + 64 + 32 + 16 + 8 + 4 + 2 + 1$ which equals 255. All 3 numbers are 255, so they are not "ascending".</p>	128	64	32	16	8	4	2	1	1	1	1	1	1	1	1	1
128	64	32	16	8	4	2	1											
1	1	1	1	1	1	1	1											
C	Incorrect	<p>We will convert all numbers to base 10 for simplicity. The first number, 139, is already in base 10. The second number, 10001011 (base-2) can be converted with this chart:</p> <table border="1"> <tr> <td>128</td> <td>64</td> <td>32</td> <td>16</td> <td>8</td> <td>4</td> <td>2</td> <td>1</td> </tr> <tr> <td>1</td> <td>0</td> <td>0</td> <td>0</td> <td>1</td> <td>0</td> <td>1</td> <td>1</td> </tr> </table> <p>We get $128 + 8 + 2 + 1$ which equals 139. The third number, 8B (base-16), can be converted with this calculation: $8 * 16 + B$ (substitute 11 for b) = $8 * 16 + 11 = 128 + 11 = 139$ All 3 numbers are 139, so they are not "ascending".</p>	128	64	32	16	8	4	2	1	1	0	0	0	1	0	1	1
128	64	32	16	8	4	2	1											
1	0	0	0	1	0	1	1											
D	Correct	All of the numbers are the same in each of the 3 choices, which means none of these are "ascending".																

Question 05		C
A	Incorrect	Wrong logic
B	Incorrect	Wrong logic
C	Correct	We need to determine if count is a factor of nbr. If it is, then dividing number by count should have a remainder of 0.
D	Incorrect	Wrong logic

Question 06		B
A	Incorrect	Wrong logic
B	Correct	Since A is true and B is false we know the A AND B gate will evaluate to false. If we want the final OR gate to evaluate to false, we need the first OR gate to evaluate to false as well. We know that C is false. The only way C OR D would be false is if D is also false, which results in the final OR gate calculating false OR false which is false.
C	Incorrect	Wrong logic
D	Incorrect	Wrong logic

Question 07		C
A	Incorrect	Wrong logic and/or calculations
B	Incorrect	Wrong logic and/or calculations
C	Correct	x initially stores 3 when the REPEAT UNTIL loop is entered. Since x is odd, the statement $x \text{ MOD } 2 = 1$ is true and x is increased by 1 to a value of 4. 4 is not greater than 10 so the REPEAT UNTIL loop continues. Since x is even, the statement $x \text{ MOD } 2 = 1$ is false and x is increased by 2 to a value of 6. 6 is not greater than 10 so the REPEAT UNTIL loop continues. Since x is even, the statement $x \text{ MOD } 2 = 1$ is false and x is increased by 2 to a value of 8. 8 is not greater than 10 so the REPEAT UNTIL loop continues. Since x is even, the statement $x \text{ MOD } 2 = 1$ is false and x is increased by 2 to a value of 10. 10 is not greater than 10 so the REPEAT UNTIL loop continues. Since x is even, the statement $x \text{ MOD } 2 = 1$ is false and x is increased by 2 to a value of 12. 12 is greater than 10 so the loop stops and the value of x, which is 12, is displayed.
D	Incorrect	Wrong logic and/or calculations

Question 08		C
A	Incorrect	Wrong logic and/or calculations
B	Incorrect	Wrong logic and/or calculations
C	Correct	x initially stores 3 when the REPEAT UNTIL loop is entered. Since x is odd, the statement $x \text{ MOD } 2 = 1$ is true and x is increased by 1 to a value of 4. 4 is not greater than 10 so the REPEAT UNTIL loop continues. Since x is even, the statement $x \text{ MOD } 2 = 1$ is false and x is increased by 2 to a value of 6. 6 is not greater than 10 so the REPEAT UNTIL loop continues. Since x is even, the statement $x \text{ MOD } 2 = 1$ is false and x is increased by 2 to a value of 8. 8 is not greater than 10 so the REPEAT UNTIL loop continues. Since x is even, the statement $x \text{ MOD } 2 = 1$ is false and x is increased by 2 to a value of 10. 10 is not greater than 10 so the REPEAT UNTIL loop continues. Since x is even, the statement $x \text{ MOD } 2 = 1$ is false and x is increased by 2 to a value of 12. 12 is greater than 10 so the loop stops and the value of x, which is 12, is displayed.
D	Incorrect	Wrong logic and/or calculations

Question 09		A
A	Correct	The smallest possible value for x is 10. The largest possible value for y is 40. Therefore, if z is a random number between x and y, its range would be [10..40].
B	Incorrect	Wrong logic
C	Incorrect	Wrong logic
D	Incorrect	Wrong logic

Question 10		B & C
A	Incorrect	<p>To the right you see the result of running this code. This code does not successfully get the robot to the gray square.</p>
B	Correct	<p>To the right you see the result of running this code. This code does successfully get the robot to the gray square.</p>
C	Correct	<p>To the right you see the result of running this code. This code does successfully get the robot to the gray square.</p>
D	Incorrect	<p>To the right you see the result of running this code. This code does not successfully get the robot to the gray square.</p>