35. Consider the following pseudocode.

**repeat**

i = 1

read a value for x

**if** ((x < 5.0) **and** (2x < 10.7)) or (sqrt(5x) > 5.1) **then**

write the value of x

**end** **if**

increase i by 1

**until** i > 5

The input values for x are 1.0, 5.1, 2.4, 7.2, and 5.3. What are the output values?

The output values would be: 1.0, 5.1 and 2.4

37. Rewrite the following statement form with a simplified conditional expression, where the function odd(n) returns true if n is odd.

**if not** (Value1 < Value 2) **or** odd(Number))

**or** (**not**(Value1 < Value2) **and** odd(Number)) **then**

statement1

**else**

statement2

**end if**

A = Value1 < Value2

B = odd(Number)

statement1 = (~(A v B) v (~A ^ B))

38. You want your program to execute statement 1 when A is false, B is false, and C is true, and to execute statement 2 otherwise. You wrote

**if not**(A **and** B) **and** C **then**

statement1

**else**

statement2

**end if**

Does this do what you want?

Yes, when A and B are False the not in front the parenthesis that enclose the A and B statement makes both of them True and with C also True the whole statement is true.

61. You meet two of the inhabitants of this country, Percival and Llewellyn. Percival says, “At least one of us is a liar.” Is Percival a liar or a truth teller? What about Llewellyn? Explain your answer.

Percival is a truth teller, because he if he was a liar, this statement would be true, and as a liar he would be unable to tell the truth. This means that his statement must be true, and that means that Llewellyn is a liar, because at least one of them is.

62. Traveling on, you meet Merlin and Meredith. Merlin says, “If I am a truth teller, then Meredith is a truth teller.” Is Merlin a liar or a truth teller? What about Meredith? Explain your answer.

Either both of them are truth tellers or both of them are liars. If Merlin is a truth teller then that means his statement is true, which means that Meredith is a truth teller. If merlin is a liar then that means his statement is false, which means that Meredith is also a liar.

63. Next, you meet Rothwold and Grymlin. Rothwold says, “Either I am a liar or Grymlin is a truth teller.” Is Rothwold a liar or a truth teller? What about Grymlin? Explain your answer.

Both are truth tellers. If Rothwald was liar, he would not state that he was one. Because Rothwald, based on his statement cannot be a liar, this means that the second part is true and Grymlin is also a truth teller.

64. Finally, you meet Gwendolyn and Merrilaine. Gwendolyn says, “I am a liar but Merrilaine is not.” Is Gwendolyn a liar or a truth teller? What about Merrilaine?

Both are liars. Gwendolyn says that she is a liar, which they would not say if she was a truth teller. This makes Gwendolyn’s statement false, meaning that Merrilaine is also not a truth teller.