Computability Assignment
Year 2013/14 - Number 1

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1 Question

Define a binary property $p(x, y)$ over natural numbers that satisfies both the requisites:

1. $\forall x \in \mathbb{N}.\exists y \in \mathbb{N}.p(x, y)$ and
2. *it is false that* $\forall y \in \mathbb{N}.\exists x \in \mathbb{N}.p(x, y)$

Provide a definition for p, and a proof for the above claims.

1.1 Answer

Write your answer here.

Let p a property over natural numbers that associates x to its double value, for example:

p(1,2); p(2,4);p(3,6).....p(n,2n) => $\forall x \in \mathbb{N}.\exists y \in \mathbb{N}.p(x, y)$ and it is false that $\forall y \in \mathbb{N}.\exists x \in \mathbb{N}.p(x, y)$.

In fact if I take y=3 you can not be find a correspondent x;