Problem 1:

We have $P(x) = a_n x^n + a_{n-1} x^{n-1} + ... + a_1 x + a_0$.

$=> P(x_1) - P(x_2) = \sum_{i=0}^{n} a_i ({x_1}^i - {x_2}^i)$

We also have:

${x_1}^k - {x_2}^k = (x_1 - x_2) \sum_{j=0}^{k-1} {x_1}^j {x_2}^{k-j-1}$

Therefore:

$P(x_1) - P(x_2) = 0 \ (mod \ (x_1 - x_2))$ (1)

However, Bob function gives:

P(20) = 7 and P(15) = 5

7-5 ≠ 0 (mod (20-15)) (contradict to (1))

=> There was a mistake in Bob's implementation.