$a_n = \min(\max((\text{reverse}(a_{n-1}) - n), (a_{n-3} + 1), \text{num_digits}(a_{n-1})), \max((n+1), \max(a_{n-3}, a_{n-2}, a_{n-2}), a_{n-3}), a_n = \min(\max((\text{reverse}(a_{n-1}) - n), (a_{n-3} + 1), \text{num_digits}(a_{n-1})), \max((n+1), \max(a_{n-3}, a_{n-2}, a_{n-2}), a_{n-3}), a_n = \min(\max((\text{reverse}(a_{n-1}) - n), (a_{n-3} + 1), \text{num_digits}(a_{n-1})), \max((n+1), \max(a_{n-3}, a_{n-2}, a_{n-2}), a_{n-3}), a_n = \min(\max((\text{reverse}(a_{n-1}) - n), (a_{n-3} + 1), \text{num_digits}(a_{n-1}))), \max((n+1), \max(a_{n-3}, a_{n-2}, a_{n-2}), a_{n-3}), a_n = \min(\max((\text{reverse}(a_{n-1}) - n), a_{n-2}, a_{n-2}), a_{n-3}), a_n = \min(\max((\text{reverse}(a_{n-1}) - n), a_{n-2}, a_{n-2}), a_{n-3})), a_n = \min(\max((\text{reverse}(a_{n-1}) - n), a_{n-2}, a_{n-2}), a_{n-2})), a_n = \min(\max((\text{reverse}(a_{n-1}) - n), a_{n-2}, a_{n-2}), a_{n-2}))), a_n = \min(\max((\text{reverse}(a_{n-1}) - n), a_{n-2}, a_{n-2}))), a_n = \min(\max((\text{reverse}(a_{n-1}) - n), a_{n-2}, a_{n-2})))), a_n = \min(\max((\text{reverse}(a_{n-1}) - n), a_{n-2}, a_{n-2})))), a_n = \min(\max((\text{reverse}(a_{n-1}) - n), a_{n-2}, a_{n-2})))), a_n = \min((\text{reverse}(a_{n-1}) - n), a_n = \min((\text{reverse}(a_{n-1}) - n), a_{n-2}, a_{n-2})))))), a_n = \min((\text{reverse}(a_{n-1}) - n), a_{n-2}, a_{n-2})))))$