4. Every day a student randomly chooses a sandwich for lunch from a pile of wrapped sandwiches. If there are six kinds of sandwiches, how many different ways are there for the student to choose sandwiches for the seven days of a week if the order in which the sandwiches are chosen matters?

12. How many different combinations of pennies, nickels, dimes, quarters, and half dollars can a piggy bank contain if it has 20 coins in it?

20. How many solutions are there to the inequality 
\[ x_1 + x_2 + x_3 \leq 11, \]
where \( x_1, x_2, \) and \( x_3 \) are nonnegative integers? [Hint: Introduce an auxiliary variable \( x_4 \) such that \( x_1 + x_2 + x_3 + x_4 = 11. \)]

18. How many strings of 20-decimal digits are there that contain two 0s, four 1s, three 2s, one 3, two 4s, three 5s, two 7s, and three 9s?

40. How many ways are there to travel in \( xyzw \) space from the origin \((0, 0, 0, 0)\) to the point \((4, 3, 5, 4)\) by taking steps one unit in the positive \( x \), positive \( y \), positive \( z \), or positive \( w \) direction?