1. (a) Suppose you have a hash table of size $N = 5$. The hash function used is folding: $h(k) = (\sum_{i=1}^{n} Ps_i) \mod N$, where k is the key, s_i is the i^{th} section of bits in k, n is the number of sections, and P is a large prime number. Insert the following set of 8-bit integers into the hash table using the parameters $n = 2$ and $P = 17$, using chaining as your collision resolution technique. SHOW YOUR WORK.

$$\{217, 193, 122, 113, 50, 239, 23, 25, 167, 255\}$$

   (b) What is the collision rate, i.e., $\frac{\text{\# of collisions}}{\text{total \# of inserts}}$?