```
// sᵢ → ASCII value of i'th character of given string
// hash(s) → (s₀b^(n-1) + s₁b^(n-2) + … + s_(n-1)b⁰) % mod

Function num_of_equivalent_rotation(s):
      n = length of s
      base = 37
      mod = 10^9 + 9

      org_hash = 0
      base_powered = 1
      for i=n-1 to 0:
            org_hash = ((org_hash + s[i]) * base_powered) % mod
            base_powered = (base_powered * base) % mod

      //base_powered → base^n % mod
      curr_hash = org_hash
      num_of_valid_k = 0

      for k=1 to n:
            curr_hash = (curr_hash*base - s[k-1]*base_powered +
                        s[(k+n-1)%n]) % mod

            if curr_hash < 0:
                  curr_hash += mod

            if curr_hash == org_hash:
                  num_of_valid_k = num_of_valid_k + 1

      return num_of_valid_k
```