# Question 3.

1. Caesar Cipher Encryption  
   This program encrypts a message using Caesar's Cipher. Each letter is shifted by a fixed number of positions, preserving case. Non-alphabetical characters are unchanged.  
   C Code:

#include <stdio.h>  
#include <ctype.h>  
  
int main() {  
 char text[1000];  
 int key;  
  
 printf("Enter key (number): ");  
 scanf("%d", &key);  
 getchar();  
  
 printf("plaintext: ");  
 fgets(text, sizeof(text), stdin);  
  
 printf("ciphertext: ");  
 for (int i = 0; text[i] != '\0'; i++) {  
 char ch = text[i];  
  
 if (isalpha(ch)) {  
 char offset = isupper(ch) ? 'A' : 'a';  
 ch = ((ch - offset + key) % 26) + offset;  
 }  
  
 printf("%c", ch);  
 }  
 printf("\n");  
  
 return 0;  
}