

Caesar's Cipher (Implementation)

Code

```
#include <stdio.h>
#include <string.h>
#include <stdlib.h>
#include <ctype.h>

char *encrypt(char message[], int shift)
{
    int i;
    for (i = 0; i < strlen(message); i++)
    {
        // printf("Debug Original: %c = %d\n", message[i], message[i]);
        if ((int)message[i] == 32)
        {
            message[i] = message[i];
        }
        else if ((int)message[i] + shift > 126)
        {
            message[i] = (char)((((int)message[i] + shift) % 94));
        }
        else
        {
            message[i] = (char)((int)message[i] + shift);
        }
        // printf("Debug Encrypted: %c = %d\n", message[i], message[i]);
    }
    return message;
}

char *decrypt(char message[], int shift)
{
    int i;
    for (i = 0; i < strlen(message); i++)
    {
        // printf("Debug Original: %c = %d\n", message[i], message[i]);
        if ((int)message[i] == 32)
        {
            message[i] = message[i];
        }
        else if ((int)message[i] - shift < 32)
        {
            message[i] = (char)(126 - (32 - ((int)message[i] -
shift))));
        }
        else
        {
            message[i] = (char)((int)message[i] - shift);
        }
        // printf("Debug Decrypted: %c = %d\n", message[i], message[i]);
    }
    return message;
}

int main(int argc, char *argv[])
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```

```

{
    if (strcmp(argv[1], "-e") == 0)
    {
        printf("You chose to encrypt data with a shift of %d\n",
atoi(argv[3]));
        printf("Original string: | %s |\n", argv[2]);
        printf("Encrypted string: | %s |\n", encrypt(argv[2],
atoi(argv[3])));
    }
    else if (strcmp(argv[1], "-d") == 0)
    {
        printf("You chose to decrypt data with a shift of %d\n",
atoi(argv[3]));
        printf("Original string: | %s |\n", argv[2]);
        printf("Decryped string: | %s |\n", decrypt(argv[2],
atoi(argv[3])));
    }
    else
    {
        printf("Please enter a valid option.");
    }

    return 0;
}

```

Output

```

C:\Users\USER\OneDrive\Desktop\practicals\CSS\CesarCipher>gcc CaesarCipher.c -o CaesarCipher

C:\Users\USER\OneDrive\Desktop\practicals\CSS\CesarCipher>CaesarCipher -e "Is your name Nikita?" 15
You chose to encrypt data with a shift of 15
Original string: | Is your name Nikita? |
Encrypted string: | X$ *~&# }p|t ]xzx%pN |

C:\Users\USER\OneDrive\Desktop\practicals\CSS\CesarCipher>CaesarCipher -d "X$ *~&# }p|t ]xzx%pN" 15
You chose to decrypt data with a shift of 15
Original string: | X$ *~&# }p|t ]xzx%pN |
Decryped string: | Is your name Nikita? |

```