**//Program 05:** **Develop the logic using Horspool String Matching algorithm to implement a program to search for the given pattern in given text string.**

#include <stdio.h>

#include <string.h>

int horspool(char T[], char P[], int n, int m);

int main() {

char T[100], P[100];

int flag;

printf("Enter the Text String:\n");

fgets(T, sizeof(T), stdin);

T[strcspn(T, "\n")] = '\0'; // Remove newline if present

printf("Enter the Pattern String:\n");

fgets(P, sizeof(P), stdin);

P[strcspn(P, "\n")] = '\0';

flag = horspool(T, P, strlen(T), strlen(P));

if (flag == -1)

printf("String not Found\n");

else

printf("String found at position %d\n", flag);

return 0;

}

int horspool(char T[], char P[], int n, int m) {

int table[256]; // Shift table

int i, j;

// Initialize shift values to pattern length

for (i = 0; i < 256; i++)

table[i] = m;

// Fill actual shift values from the pattern

for (i = 0; i < m - 1; i++)

table[(unsigned char)P[i]] = m - 1 - i;

i = m - 1;

while (i < n) {

j = 0;

while (j < m && P[m - 1 - j] == T[i - j])

j++;

if (j == m)

return i - m + 1; // Match found

i += table[(unsigned char)T[i]];

}

return -1; // No match

}