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include<stdio.h>
#include<string.
h> int main()
{
    int
i,j,k,l,m,next_state[20],n,mat[10][10][10],flag,p; int
num_states,final_state[5],num_symbols,num_final;
int present_state[20],prev_trans,new_trans;
    char
ch,input[20]; int
symbol[5],inp,inp1;
    printf("How many states in the NFA : ");
scanf("%d",&num_states);
    printf("How many symbols in the input alphabet : ");
scanf("%d",&num_symbols);
    for(i=0;i<num_symbols;i++)
    {
        printf("Enter the input symbol %d : ",i+1);
scanf("%d",&symbol[i]);
    }
    printf("How many final states : ");
scanf("%d",&num_final);
    for(i=0;i<num_final;i++)
    {
        printf("Enter the final state %d : ",i+1);
scanf("%d",&final_state[i]);
    }
    //Initialize all entries with -1 in Transition table
    for(i=0;i<10;i++)
    {
        for(j=0;j<10;j++)
        {
            for(k=0;k<10;k++)
            {
                mat[i][j][k]=-1;
            }
        }
    }
    //Get input from the user and fill the 3D transition table
    for(i=0;i<num_states;i++)
    {
        for(j=0;j<num_symbols;j++)
        {
            printf("How many transitions from state %d for the input %d :
",i,symbol[j]);
scanf("%d",&n);
            for(k=0;k<n;k++)
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        {
            printf("Enter the transition %d from state %d for the input
%d : ",k+1,i,symbol[j]);
            scanf("%d",&mat[i][j][k]);
        }
    }
    printf("The transitions are stored as shown below\n");
    for(i=0;i<10;i++)
    {
        for(j=0;j<10;j++)
        {
            for(k=0;k<10;k++)
            {
                if(mat[i][j][k]!=-1)
                printf("mat[%d][%d][%d] = %d\n",i,j,k,mat[i][j][k]);
            }
        }
    }
    while(1)
    {
        printf("Enter the input
string : ");
        scanf("%s",input);
        present_state[0]=0;
        prev_trans=1;
        l=strlen(input);
        for(i=0;i<l;i++)
        {
            if(input[i]=='0')
                inp1=0;
            else if(input[i]=='1')
                inp1=1;
            else
            {
                printf("Invalid input\n");
                exit(0);
            }
        }
        for(m=0;m<num_symbols;m++)
        {
            if(inp1==symbol[m])
            {
                inp=m;
                break;
            }
        }
        new_trans=0;
    }
}
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        for(j=0;j<prev_trans;j++)
        {
            k=0;
            p=present_state[j];
            while(mat[p][inp][k]!=-1)
            {
                next_state[new_trans++]=mat[p][inp][k];
                k++;
            }
        }
        for(j=0;j<new_trans;j++)
        {
            present_state[j]=next_state[j];
        }
        prev_trans=new_trans;
    }
    flag=0;
    for(i=0;i<prev_trans;i++)
    {
        for(j=0;j<num_final;j++)
        {
            if(present_state[i]==final_state[j])
            {
                flag=1;
                break;
            }
        }
    }
    if(flag==1)
printf("Accepted\n");
    else
        printf("Not accepted\n");
    printf("Try with another input\n");
}
}
```

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How many states in the NFA : 4
How many symbols in the input alphabet : 2
Enter the input symbol 1 : 0
Enter the input symbol 2 : 1
How many final states : 1
Enter the final state 1 : 2
How many transitions from state 0 for the input 0 : 1
Enter the transition 1 from state 0 for the input 0 : 1
How many transitions from state 0 for the input 1 : 1
Enter the transition 1 from state 0 for the input 1 : 3
How many transitions from state 1 for the input 0 : 2
Enter the transition 1 from state 1 for the input 0 : 1
Enter the transition 2 from state 1 for the input 0 : 2
How many transitions from state 1 for the input 1 : 1
Enter the transition 1 from state 1 for the input 1 : 1
How many transitions from state 2 for the input 0 : 0
How many transitions from state 2 for the input 1 : 0
How many transitions from state 3 for the input 0 : 1
Enter the transition 1 from state 3 for the input 0 : 3
How many transitions from state 3 for the input 1 : 2
Enter the transition 1 from state 3 for the input 1 : 2
Enter the transition 2 from state 3 for the input 1 : 3
The transitions are stored as shown below
mat[0][0][0] = 1
mat[0][1][0] = 3
mat[1][0][0] = 1
mat[1][0][1] = 2
mat[1][1][0] = 1
mat[3][0][0] = 3
mat[3][1][0] = 2
mat[3][1][1] = 3
Enter the input string : 0111010
Accepted
Try with another input
Enter the input string : 10010101
Accepted
Try with another input
Enter the input string : 100100
Not accepted
Try with another input
Enter the input string : 011011
Not accepted
```