Assignment No. 9

**TITLE : Hashing**

Name : METHIKA M Date : 23/10/2025

UNo : UIT2024936

Class: IT- I DIV

Batch : I2  
  
  
**SOURCE CODE**

#include<stdio.h>

#include<stdlib.h>

struct node

{

int data;

struct node \*next;

};

int hash (int key);

void create (struct node \*ftable[], int fvalue);

void display(struct node \*ftable[]);

void search(struct node \*ftable[], int fns);

int menu (void);

int hash (int key)

{

return key%10;

}

void create (struct node \*ftable[], int fvalue)

{

int index=0;

index=hash(fvalue);

struct node \*newnode=NULL;

struct node \*temp=NULL;

newnode=(struct node \*)calloc(1,sizeof(struct node));

newnode->data=fvalue;

newnode->next=NULL;

if (ftable[index]==NULL)

{

ftable[index]=newnode;

}

else

{

temp=ftable[index];

while(temp->next!=NULL)

{

temp=temp->next;

}

temp->next=newnode;

}

}

void display(struct node \*ftable[])

{

int i=0;

struct node \*j=0;

printf("\nHash Table\n");

for (i=0;i<10;i++)

{

printf("[%d]: ", i);

j=ftable[i];

while(j!=NULL)

{

printf("%d -> ", j->data);

j=j->next;

}

printf("NULL\n");

}

}

void search(struct node \*ftable[], int fns)

{

int index=0;

int found=0;

index=hash(fns);

struct node \*i=NULL;

i=ftable[index];

while(i!=NULL)

{

if (i->data==fns)

{

printf("\n%d found at index %d\n", fns, index);

found=1;

break;

}

i=i->next;

}

if (found==0)

{

printf("%d not found", fns);

}

}

int menu (void)

{

int choice=0;

do

{

printf("\nHASHING");

printf("\nWhat would you like to perform?");

printf("\n1. Create \n2. Display \n3. Search \n0. Exit");

printf("\nEnter your choice: ");

scanf("%d",&choice);

}while(choice<0||choice>3);

return choice;

}

int main(void)

{

struct node \*table[10]={NULL};

int value=0;

int ns=0;

int ch=0;

do

{

ch=menu();

switch(ch)

{

case 1:

printf("\nEnter value to insert: ");

scanf("%d",&value);

create(table,value);

break;

case 2:

display(table);

break;

case 3:

printf("\nEnter value to search: ");

scanf("%d", &ns);

search(table, ns);

break;

case 0:

printf("\nExiting...");

printf("\nThank you!");

}

}while(ch!=0);

return 0;

}

**OUTPUT**

  