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//S Harshini-185001058
#include<stdio.h>
#include<string.h>
#include "definitions.h"
int main()
{
    stud student[8],insf,ins,insl;
    int pos,retpos,del,print,n,ch=1;
    char sear[10];
    input(student);
    n=5;
    while(ch)
    {
        printf("\nenter choice 1. Insert a record in the front of the list\n2. Insert a record at the end of
the list\n3. Insert a record after a given Regno in the list \n4. Search a given record in the list
based on Name\n5.Delete a given student record \n6. Display all students record\n7. Display
the previous and next record of a given student \n8. enter 0 to exit\n");
        scanf("%d",&ch);
        switch(ch)
        {
            case 1:
            {
                printf("\nenter details to insert a record in front of the list");
                n++;
                printf("\nname:");
                scanf("%s",insf.name);
                printf("\nenter marks of 5 subjects");
                for(int j=0;j<5;j++)
                    scanf("%d",&insf.mark[j]);
                insf.regno=1;
                insertfront(student,insf);
                break;
            }
            case 2:
            {
                printf("\nenter details to insert a record in last of the list");
                n++;
                printf("\nname:");
                scanf("%s",insl.name);
                printf("\nenter marks of 5 subjects");
                for(int j=0;j<5;j++)
                    scanf("%d",&insl.mark[j]);
                insl.regno=7;
            }
        }
    }
}

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insertlast(student,insl);
break;
}
case 3:
{
printf("\nenter details to insert a record in specified position");
n++;
printf("\nname:");
scanf("%s",ins.name);
printf("\nenter marks of 5 subjects");
for(int j=0;j<5;j++)
scanf("%d",&ins.mark[j]);
ins.regno=pos;
printf("\nenter the position to be inserted");
scanf("%d",&pos);
insert(student,ins,pos);
break;
}
case 4:
{
printf("\nenter the name to search the record");
scanf("%s",sear);
retpos=search(student,sear);
printf("\nthe position of record is %d",retpos);
break;
}
case 5:
{
printf("\nenter the record no to be deleted");
n--;
scanf("%d",&del);
delete(student,del);
break;
}
case 6:
{
displayall(student,n);
break;
}
case 7:
{
printf("\nenter the position of record whose previous and next record is to be displayed");
scanf("%d",&print);

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    disp(student,print);
    break;
}
}
}
return 0;
}

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//contents of definitions.h
typedef struct records
{
    int regno;
    char name[20];
    int mark[5];
}stud;
#include "prototype.h"
void input(stud student[])
{
    printf("\nenter details of student");
    for(int i=0;i<5;i++)
    {
        student[i].regno=i+1;
        printf("\nname:");
        scanf("%s",student[i].name);
        printf("\nenter marks of 5 subjects");
        for(int j=0;j<5;j++)
            scanf("%d",&student[i].mark[j]);
    }
    return;
}
void insertfront(stud student[],stud insf)
{
    for(int i=5;i>0;i--)
    {
        student[i]=student[i-1];
        student[i].regno+=1;
    }
    student[0]=insf;
}
void insertlast(stud student[],stud insl)
{
    student[6]=insl;
}

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}
void insert(stud student[],stud ins,int n)
{
    for(int k=7;k>n-2;k--)
    {
        student[k]=student[k-1];
        student[k].regno=k+1;
    }
    student[n-1]=ins;
    student[n-1].regno=n;
}
int search(stud student[],char sear[])
{
    for(int i=0;i<8;i++)
        if(strcmp(student[i].name,sear)==0)
            return i+1;
    return 0;
}
void delete(stud student[],int d)
{
    for(int t=d;t<8;t++)
    {
        student[t-1]=student[t];
        student[t-1].regno-=1;
    }
}
void displayall(stud student[],int y)
{
    for(int h=0;h<y;h++)
    {
        printf("\nRegno: %d",student[h].regno);
        printf("\nname: %s",student[h].name);
        printf("\nmarks:");
        for(int l=0;l<5;l++)
            printf("%d\t",student[h].mark[l]);
    }
}
void disp(stud student[],int p)
{
    printf("previous record\n");
    printf("Regno: %d",student[p-2].regno);
    printf("\nname: %s",student[p-2].name);
    printf("\nmarks:");

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    for(int l=0;l<5;l++)
        printf("%d\t",student[p-2].mark[l]);
    printf("\n\nnext record");
    printf("\nRegno: %d",student[p].regno);
    printf("\nname: %s",student[p].name);
    printf("\nmarks:");
    for(int l=0;l<5;l++)
        printf("%d\t",student[p].mark[l]);
}

```

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// contents of prototype.h
void input(stud student[]);
void insertfront(stud student[],stud insf);
void insertlast(stud student[],stud insl);
int search(stud student[],char sear[]);
void delete(stud student[],int d);
void displayall(stud student[],int y);
void disp(stud student[],int p);

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/*sample i/o
gml8:Desktop csea68$ ./a.out

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enter details of student
name:harini

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enter marks of 5 subjects99 99 99 99 99

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name:harshi

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enter marks of 5 subjects88 88 88 88 88

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name:yami

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```

enter marks of 5 subjects77 88 99 90 88

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name:vinay

```

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enter marks of 5 subjects77 99 88 80 99

```

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name:manju

```

enter marks of 5 subjects99 99 99 99 99

enter choice 1. Insert a record in the front of the list

2. Insert a record at the end of the list

3. Insert a record after a given Regno in the list

4. Search a given record in the list based on Name

5.Delete a given student record

6. Display all students record

7. Display the previous and next record of a given student

8. enter 0 to exit

2

enter details to insert a record in last of the list

name:yuva

enter marks of 5 subjects99 99 99 99 99

enter choice 1. Insert a record in the front of the list

2. Insert a record at the end of the list

3. Insert a record after a given Regno in the list

4. Search a given record in the list based on Name

5.Delete a given student record

6. Display all students record

7. Display the previous and next record of a given student

8. enter 0 to exit

4

enter the name to search the recordharini

the position of record is 1

enter choice 1. Insert a record in the front of the list

2. Insert a record at the end of the list

3. Insert a record after a given Regno in the list

4. Search a given record in the list based on Name

5.Delete a given student record

6. Display all students record

7. Display the previous and next record of a given student

8. enter 0 to exit

5

enter the record no to be deleted

1

enter choice 1. Insert a record in the front of the list
2. Insert a record at the end of the list
3. Insert a record after a given Regno in the list
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5.Delete a given student record
6. Display all students record
7. Display the previous and next record of a given student
8. enter 0 to exit
6

Regno: 1
name: harshi
marks:88 88 88 88 88

Regno: 2
name: yami
marks:77 88 99 90 88

Regno: 3
name: vinay
marks:77 99 88 80 99

Regno: 4
name: manju
marks:99 99 99 99 99

Regno: 32766
name: ??W?
marks:32767 181670473 1 1459813296 32767

enter choice 1. Insert a record in the front of the list
2. Insert a record at the end of the list
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4. Search a given record in the list based on Name
5.Delete a given student record
6. Display all students record
7. Display the previous and next record of a given student
8. enter 0 to exit
0

*/