Code:

#include<iostream>

#include<stdlib.h>

#include<string.h>

#include<iomanip>

using namespace std;

static int cnt;

class stud

{

public:

char name[20];

int roll;

};

class s2 : public virtual stud

{

public : char sub[10];

int scode;

int sem;

char div[2];

};

class s1:virtual public stud

{

public : char addr[30];

int pin;

};

class sdata:public s1,public s2

{

public : int subc1;

int im1;

int um1;

};

int main()

{

sdata m[100];

char c='y',str2[10];

int op,n,i,j,flag=0,rl,r;

do

{

cout<<"\n \* \* \* \* \* \* Menu \* \* \* \* \* \*";

cout<<"\n 1. Build Table \n 2. List a Table \n 3. insert new entry";

cout<<"\n 4. Delete an entry \n 5. Edit an entry \n 6. Search for record \n Enter your choice :";

cin>>op;

switch(op)

{

case 1 : cout<<"\n building new Table";

cout<<"\n Enter total number of Entries :";

cin>>n;

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

{

cout<<"\n Enter Name of Student :";

cin>>m[i].name;

cout<<"\n Enter Roll number :";

cin>>m[i].roll;

cout<<"\n Enter Name of Subject :";

cin>>m[i].sub;

cout<<"\n Enter Subject code for Subject "<<m[i].sub<<":";

cin>>m[i].scode;

cout<<"\n Enter internal marks for Subject "<<m[i].sub<<":";

cin>>m[i].im1;

cout<<"\n Enter University exam marks for Subject "<<m[i].sub<<" :";

cin>>m[i].um1;

cnt++;

}

break;

case 2 : cout<<"\n Entries in Table are :";

cout<<setw(20)<<"\n Name\_of\_Student"<<setw(8)<<"Roll No"<<setw(12)<<"Subject"<<setw(10)<<"Sub\_code"<<setw(12)<<"Internal"<<setw(12)<<"External";

cout<<"\n----------------------------------------------------------------------------------------";

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

{

cout<<endl<<setw(10)<<m[i].name<<setw(10)<<m[i].roll<<setw(12)<<m[i].sub<<setw(10)<<m[i].scode<<setw(12)<<m[i].im1<<setw(12)<<m[i].um1;

}

break;

case 3:j=cnt;

cout<<"\n Enter Name of Student :";

cin>>m[j].name;

cout<<"\n Enter Roll number :";

cin>>m[j].roll;

cout<<"\n Enter Name of Subject :";

cin>>m[j].sub;

cout<<"\n Enter Subject code for Subject "<<m[j].sub<<":";

cin>>m[j].scode;

cout<<"\n Enter internal marks for Subject "<<m[j].sub<<":";

cin>>m[j].im1;

cout<<"\n Enter University exam marks for Subject "<<m[j].sub<<" :";

cin>>m[j].um1;

cnt++;

break;

case 4: cout<<"\n Enter record number to delete :";

cin>>r;

if(r>0 && r<=cnt)

{

j=r-1;

for(i=j;i<cnt-1;i++)

{

m[i]=m[i+1];

}

cnt--;

cout<<"\n Record Deleted Successfully ";

}

else

cout<<"\n Entered wrong record number,please enter correct record number \n";

break;

case 5: cout<<"\n Enter record number to edit :";

cin>>r;

if(r>0 && r<=cnt) {

j=r-1;

cout<<"\n Select Field to Edit : 1. Name \n 2. Roll Number \n 3. Subject Name \n4.Subject code \n5. Internal Marks \n6. Universirt Exam marks \n Choice : ";

cin>>op;

switch(op)

{

case 1 : cout<<"\n Enter New Name of student :";

cin>>m[j].name;

break;

case 2 : cout<<"\n Enter updated Roll Number of student :";

cin>>m[j].roll;

break;

case 3 :cout<<"\n Enter New Name of Subject :";

cin>>m[j].sub;

break;

case 4 : cout<<"\n Enter updated Subject code for Subject "<<m[j].sub<<":";

cin>>m[j].scode;

break;

case 5 : cout<<"\n Enter updated internal marks for Subject "<<m[j].sub<<":";

cin>>m[j].im1;

break;

case 6 : cout<<"\n Enter Updated University exam marks for Subject "<<m[j].sub<<" :";

cin>>m[j].um1;

break;

}

}

else

cout<<"\n Entered wrong record number,please enter correct record number \n";

break;

case 6: cout<<"\n Select data type to search :\n 1. Name \n 2.Roll Number \n Choice :";

cin>>op;

switch(op)

{

case 1:cout<<"\n Enter Name to search in table :";

cin>>str2;

flag=0;

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

{

if(strcmp(m[i].name,str2)==0)

{

flag=1;

cout<<"\nRecord found for name "<<str2<<". Details are : ";

cout<<"\n Name :"<<str2<<"\t Roll :"<<m[i].roll;

cout<<"\n Subject :"<<m[i].sub<<"\t Subject Code :"<<m[i].scode;

cout<<"\n Internal:"<<m[i].im1<<"\t External :"<<m[i].um1;

}

else

continue;

}

if(flag==0)

cout<<"\n No record found";

break;

case 2 : cout<<"\n Enter roll number to search in table :";

cin>>rl;

flag=0;

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

{

if(m[i].roll==rl)

{

flag=1;

cout<<"\nRecord found for Roll number "<<rl<<". Details are : ";

cout<<"\n Name :"<<m[i].name<<"\t Roll :"<<rl;

cout<<"\n Subject :"<<m[i].sub<<"\t Subject Code :"<<m[i].scode;

cout<<"\n Internal:"<<m[i].im1<<"\t External :"<<m[i].um1;

}

else

continue;

}

if(flag==0)

cout<<"\n No record found";

}

break;

}

cout<<"\n Do you want to continue (y/n) ? : ";

cin>>c;

} while(c=='y'||c=='Y');

}

Code Output: 