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CLASS: SE COMPUTER

DIV: A

BATCH: B3

ASSIGNMENT NO:3

CODE:-

```
#include<iostream>
#include<stdlib.h>
#include<string.h>
using namespace std;
struct node
{   char name[20];
     node *next;
     node *down;
      int flag;
};
class Gll
{   char ch[20];    int n,i;
     node *head=NULL,*temp=NULL,*t1=NULL,*t2=NULL;
     public:
     node *create();
     void insertb();
     void insertc();
     void inserts();
     void insertss();
     void displayb();

};
node *Gll::create()
{
    node *p=new(struct node);
    p->next=NULL;
    p->down=NULL;
    p->flag=0;
    cout<<"\n enter the name";
    cin>>p->name;
    return p;
```

```
}
void Gll::insertb()
{

        if(head==NULL)
         {   t1=create();
             head=t1;
         }
          else
          {
            cout<<"\n book exist";
          }
}
void Gll::insertc()
{
     if(head==NULL)
          {
                cout<<"\n there is no book";
          }
          else
          {   cout<<"\n how many chapters you want to insert";
          cin>>n;
          for(i=0;i<n;i++)
          {
          t1=create();
          if(head->flag==0)
          {  head->down=t1;   head->flag=1;    }
          else
          {   temp=head;
              temp=temp->down;
             while(temp->next!=NULL)
                 temp=temp->next;
              temp->next=t1;
                  }
                  }
          }


}
void Gll::inserts()
{
```

```
        if(head==NULL)
         {
               cout<<"\n there is no book";
          }
          else
          {    cout<<"\n Enter the name of chapter on which  you want to enter the
section";
  cin>>ch;

  temp=head;
if(temp->flag==0)
{   cout<<"\n their are no chapters on in book";
}
else
{    temp=temp->down;
 while(temp!=NULL)
  {
      if(!strcmp(ch,temp->name))
      {
              cout<<"\n how many sections you want to enter";
cin>>n;
for(i=0;i<n;i++)
{

          t1=create();
             if(temp->flag==0)
             {     temp->down=t1;

                    temp->flag=1;  cout<<"\n******";
                    t2=temp->down;

             }
             else
             {
                        cout<<"\n#####";
                         while(t2->next!=NULL)
                         {     t2=t2->next;         }
                               t2->next=t1;
              }
}
```

```
                        break;
                    }
                        temp=temp->next;
                 }
                }
        }
}
void Gll::insertss()
{

        if(head==NULL)
         {
              cout<<"\n there is no book";
         }
         else
         {   cout<<"\n Enter the name of chapter on which  you want to enter the
section";
              cin>>ch;

              temp=head;
             if(temp->flag==0)
             {   cout<<"\n their are no chapters on in book";
             }
             else
             {    temp=temp->down;
              while(temp!=NULL)
               {
                   if(!strcmp(ch,temp->name))
                   {
                      cout<<"\n enter name of section in which you want to enter the sub
section";
                      cin>>ch;

if(temp->flag==0)
{   cout<<"\n their are no sections ";   }
 else
 {      temp=temp->down;
        while(temp!=NULL)
        {
           if(!strcmp(ch,temp->name))
           {
```

```
                cout<<"\n how many subsections you want to enter";
                 cin>>n;
        for(i=0;i<n;i++)
              {

                   t1=create();
                     if(temp->flag==0)
                     {     temp->down=t1;

                           temp->flag=1;  cout<<"\n******";
                           t2=temp->down;

                     }
                    else
                     {
                              cout<<"\n#####";
                               while(t2->next!=NULL)
                               {    t2=t2->next;        }
                                  t2->next=t1;
                      }
                 }
                 break;
               }     temp=temp->next;
              }
          }
        }

            temp=temp->next;
       }
      }
    }
}
void Gll::displayb()
{

      if(head==NULL)
      {  cout<<"\n book not exist";
      }
      else
      {
       temp=head;
```

```
cout<<"\n NAME OF BOOK:  "<<temp->name;
     if(temp->flag==1)
     {
     temp=temp->down;

       while(temp!=NULL)
       {    cout<<"\n\t\tNAME OF CHAPTER:  "<<temp->name;
                        t1=temp;
                        if(t1->flag==1)
                        {  t1=t1->down;
                          while(t1!=NULL)
                          {    cout<<"\n\t\t\t\tNAME OF SECTION:  "<<t1->name;
                               t2=t1;
                               if(t2->flag==1)
                               {  t2=t2->down;
                               while(t2!=NULL)
                               {    cout<<"\n\t\t\t\t\t\tNAME OF SUBSECTION:
"<<t2->name;
                               t2=t2->next;
                               }
                               t1=t1->next;
                          }
                       }
                        temp=temp->next;
                }

               }
          }
}
int main()
{    Gll g;   int x;
      while(1)
     {    cout<<"\n\n enter your choice";
          cout<<"\n 1.insert book";
          cout<<"\n 2.insert chapter";
          cout<<"\n 3.insert section";
```

```
 cout<<"\n 4.insert subsection";
 cout<<"\n 5.display book";
 cout<<"\n 6.exit";
 cin>>x;
switch(x)
{   case 1:          g.insertb();
                       break;
     case 2:         g.insertc();
                       break;
          case 3:        g.inserts();
                       break;
          case 4:        g.insertss();
                       break;
          case 5:        g.displayb();
                       break;
          case 6:  exit(0);
        }
      }
      return 0;
}
```

OUTPUT:-

enter your choice 1.insert book

2.insert chapter

3.insert section

4.insert subsection

5.display book

6.exit1 enter the nameDSA enter your choice 1.insert book

2.insert chapter

3.insert section

4.insert subsection

5.display book 6.exit2 how many chapters you want to insert2 enter the nameHashing enter the nameTrees enter your choice 1.insert book

2.insert chapter

3.insert section

4.insert subsection

5.display book

6.exit3

Enter the name of chapter on which you want to enter the sectionHashing how many sections you want to enter2 enter the nameOpen ****** enter the nameClose

#####

enter your choice 1.insert book

2.insert chapter

3.insert section

4.insert subsection

5.display book

6.exit4

Enter the name of chapter on which you want to enter the sectionHashing enter name of section in which you want to enter the sub sectionOpen how many subsections you want to enter2 enter the namePoint1

******

enter the namePoint2

#####

enter your choice 1.insert book

2.insert chapter

3.insert section

4.insert subsection

5.display book

6.exit5

NAME OF BOOK: DSA

NAME OF CHAPTER: Hashing

NAME OF SECTION: Open

NAME OF SUBSECTION: Point1

NAME OF SUBSECTION: Point2

NAME OF SECTION: Close

NAME OF CHAPTER: Trees

enter your choice 1.insert book

2.insert chapter

3.insert section

4.insert subsection

5.display book

6.exit6