COMPUTER SOFTWARE LAB

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Experiment No.: 4

PROBLEM STATEMENT:

Create a class string with required data members and member functions. Use the concept of operator overloading to compare two strings using '>', concatenate two strings using '+', extract the second string from the first, if at all it is a substring of the first string (use '-').

PROGRAM CODE:

```
#include<iostream.h>
#include<conio.h>
#include<string.h>

class str
{
    private:
        char name[50];
    public:
        void enter()
        {
            gets(name);
        }

        void disp()
        {
            puts(name);
        }

        str operator+(str x)
        {
            str temp;
            strcpy(temp.name,name);
            strcat(temp.name,x.name);
            return temp;
        }

        int operator>(str x)
        {
           int n=strcmp(name,x.name);
           return n;
        }
        void operator-(str x)
        {
           int flag=0,i,j,k;
```

```
        for(i=0;i<strlen(name);i++)
        {
            if(name[i]==x.name[0])
            {
                        flag=1;
                        for(j=0;j<strlen(x.name);j++)
                        {
                            if(name[i+j]!=x.name[j])
                            {
                                        flag=0;
                                        break;
                            }
                        }
                        if(flag==1)
                        break;
            }
        }
        if(flag==1)
        {
              cout<<"\nThe substring is: ";
              for(k=i;k<(i+strlen(x.name));k++)
              cout<<name[k];
              cout<<endl;
        }
        if(flag==0)
        cout<<"\nString 2 is not a substring of String 1\n";
        return;
      }
};


int main()
{
    str s1,s2,s3;
    int ch,n;
    cout<<"Enter String 1: ";
    s1.enter();
    cout<<"Enter String 2: ";
    s2.enter();

a:
    cout<<"\nChoose:\n1. Compare\n2. Concatenate\n3. Extract a substring\n4. Exit\n";
    cin>>ch;
```

```
switch(ch)
    {
          case 1:
             n=s1>s2;
             if(n>0)
             cout<<"\nString 1 is superior\n";
             else if(n==0)
             cout<<"\nBoth strings are equal\n";
             else
             cout<<"\nString 2 is superior\n";
             getch();
             goto a;

          case 2:
             s3=s1+s2;
             cout<<"\nThe concatenated string is: ";
             s3.disp();
             getch();
             goto a;

          case 3:
             s1-s2;
             getch();
             goto a;

          case 4:
             break;

          default:
                cout<<"\nEnter a valid choice\n";
                goto a;

          }
          return 0;
}
```

OUTPUT:

```
Enter String 1: computer
Enter String 2: put

Choose:
1. Compare
2. Concatenate
3. Extract a substring
4. Exit
1

String 2 is superior

Choose:
1. Compare
2. Concatenate
3. Extract a substring
4. Exit
2

The concatenated string is: computerput

Choose:
1. Compare
2. Concatenate
3. Extract a substring
4. Exit
3

The substring is: put



Enter String 1: computer
Enter String 2: science

Choose:
1. Compare
2. Concatenate
3. Extract a substring
4. Exit
3

String 2 is not a substring of String 1
-
```

RESULT:

This program employs operator overloading to compare two strings, concatenate them and extract a substring (second string) from the first string.