



DEPARTMENT OF COMPUTER ENGINEERING

Subject: - DSU	Subject Code: 313301
Semester: - III	Course: Computer Engineering
Laboratory No: L003	Name of Subject Teacher: Prof. Imran S.
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Experiment No:	3
Title of Experiment	Write a 'C' Program to Search a particular data from the given Array of Strings using: Linear Search Method.

Aim: Write a 'C' Program to Search a particular data from the given Array of Strings using: Linear Search Method.

Algorithm:

- Step 1: Start
- Step 2: Declare variables str[5][20], search[20], i, a, found
- Step 3: Initialize the array str with values: "apple", "banana", "mango", "grapes", "lichi"
- Step 4: Set found = 0
- Step 5: Clear screen using clrscr()
- Step 6: Print "Enter the string you want to search"
- Step 7: Scan the value into search from the keyboard
- Step 8: Run a loop from i = 0 to i < 5
- Step 8.1: Compare search with str[i] using strcmp() and store the result in variable a
- Step 8.2: If a == 0 then
 - Step 8.2.1: Print "search found at index i"
 - Step 8.2.2: Set found = 1
- Step 9: After the loop, if found == 0 then
 - Step 9.1: Print "Sorry :(search is not there in the array..."
- Step 10: Stop

Code:

```
≡ File Edit Search Run Compile Debug Project Options Window Help
[■] SAAD51.C 2-[+]-
#include<stdio.h>
#include<conio.h>
#include<string.h>
void main()
{
char str[5][20]={"apple","banana","mango","grapes","lichi"},search[20];
int i,a,found=0;
clrscr();
printf("Enter the string you want to search: ");
scanf("%s",search);
for(i=0;i<5;i++)
{
a=strcmp(str[i],search);
if(a==0)
{
printf("\n%s found at index %i",search,i);
found=1;
}
}
if(found==0)
{
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F1 Help F2 Save F3 Open Alt-F9 Compile F9 Make F10 Menu
≡ File Edit Search Run Compile Debug Project Options Window Help
[■] SAAD51.C 2-[+]-
printf("\nSorry :( \n%s is not there in the array...",search);
}
getch();
}
```

Output: -

```
Enter the string you want to search: grapes
grapes found at index 3
```

Practical Related Questions:

1. Write a simple C program to perform linear search on an array of Strings to find Case Insensitive search for a string.

Ans:

```
≡ File Edit Search Run Compile Debug Project Options Window Help
[■] SAAD55.C 2-[+]  
#include<stdio.h>  
#include<conio.h>  
#include<string.h>  
void lowercase(char []);  
  
void main()  
{  
char a[5][20]={"apple","banana","grapes","lichi","mango"};  
char key[20],result[20];  
int i,cmp,found=0;  
clrscr();  
printf("Enter the string you want to search: ");  
scanf("%s",key);  
lowercase(key);  
for(i=0;i<5;i++)  
{  
cmp=strcmp(a[i],key);  
if(cmp==0)  
{  
printf("%s found in the array at index %i :)",key,i+1);  
found=1;  
break;  
}  
}  
if(found==0)  
{  
printf("Sorry :( %s is not there in the array: ",key);  
}  
getch();  
}  
  
void lowercase(char key[])  
{  
int i=0;  
while(key[i]!='\0')  
{  
if(key[i]>='A' && key[i]<='Z')  
{  
key[i]=key[i]+32;  
}  
i++;  
}  
}
```

```
F1 Help Alt-F8 Next Msg Alt-F7 Prev Msg Alt-F9 Compile F9 Make F10 Menu  
≡ File Edit Search Run Compile Debug Project Options Window Help  
[■] SAAD55.C 2-[+]  
break;  
}  
}  
if(found==0)  
{  
printf("Sorry :( %s is not there in the array: ",key);  
}  
getch();  
}  
  
void lowercase(char key[])  
{  
int i=0;  
while(key[i]!='\0')  
{  
if(key[i]>='A' && key[i]<='Z')  
{  
key[i]=key[i]+32;  
}  
i++;  
}  
}
```

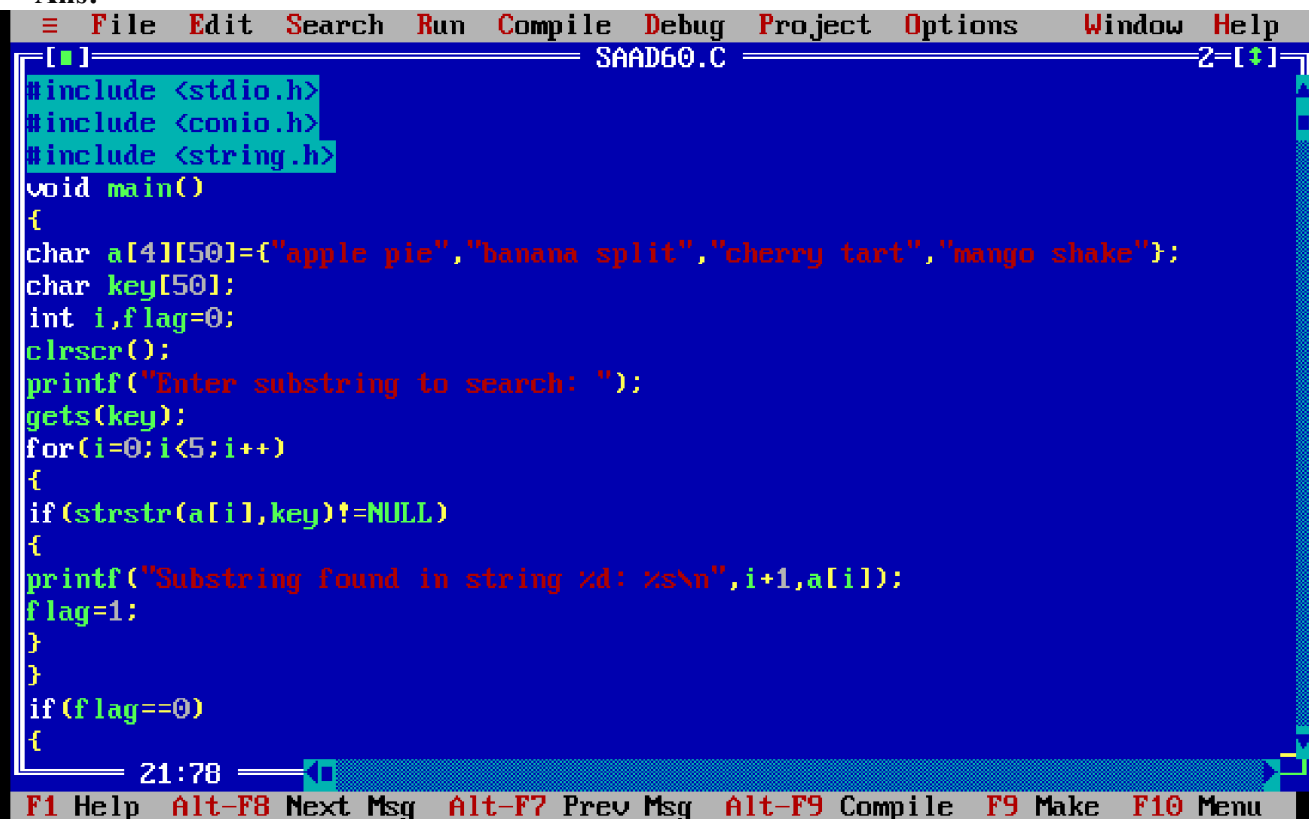
```
[■] SAAD55.C 2-[+]  
}
```

Output:

```
Enter the string you want to search: APPLE
apple found in the array at index 1 :)_
```

2. Write a simple C program to perform linear search on an array of Strings to find Checking for substring in each string

Ans:



```
File Edit Search Run Compile Debug Project Options Window Help
SAAD60.C 2-[+]-
#include <stdio.h>
#include <conio.h>
#include <string.h>
void main()
{
char a[4][50]={"apple pie","banana split","cherry tart","mango shake"};
char key[50];
int i,flag=0;
clrscr();
printf("Enter substring to search: ");
gets(key);
for(i=0;i<5;i++)
{
if(strstr(a[i],key)!=NULL)
{
printf("Substring found in string %d: %s\n",i+1,a[i]);
flag=1;
}
}
if(flag==0)
{
```

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```

≡ File Edit Search Run Compile Debug Project Options Window Help
[■] SAAD60.C 2-[+]-
{
printf("Substring not found in any string.\n");
}
getch();
}

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F1 Help Alt-F8 Next Msg Alt-F7 Prev Msg Alt-F9 Compile F9 Make F10 Menu

```

OUTPUT:

```

Enter substring to search: pie
Substring found in string 1: apple pie
-

```

Marks Obtained			Dated signature of Teacher
Process Related (35)	Product Related (15)	Total (50)	