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Solved Term-End Practical Examination December, 2016
 BCSL-021(C LANGUAGE PROGRAMMING LAB)
 BCSL-021 / S1

1. Write an interactive C program to generate a bill for the ordered items for a Fast Food Restaurant. 30

Ans:

```
#include <stdio.h>
int num,x;
float price;
float total;
char choice;
void main()
{
    int choice;
    int quantity;
    int again;
    clrscr();
    do
    {
        printf("        Welcome to Restaurant.    \n ");
        printf(" Please select the food that you would like to purchase.\n\n");
        printf("\t\t [1] Fried Rice - RS. 40.00\n");
        printf("\t\t [2] Chicken Chop - RS. 60.50\n");
        printf("\t\t [3] Chicken Burger - Rs. 53.00\n");
        printf("\t\t [4] exit\n");
        printf("Enter your choice here : ");
        scanf("%d", &choice);

        if (choice == 1)
        {
            printf("Enter quantity : ");
            scanf("%d", &quantity);
            total = 40.00 * quantity ;
            printf("Your total amount is Rs %.2f", total);
        }
        else if ( choice == 2)
        {
            printf("Enter quantity : ");
            scanf("%d", &quantity);
            total = 60.00 * quantity ;
            printf("Your total amount is Rs %.2f", total);
        }
        else if ( choice == 3 )
        {
            printf("Enter quantity : ");
            scanf("%d", &quantity);
            total = 53.00 * quantity ;
            printf("Your total amount is Rs %.2f", total);
        }
        else
        {
            break;
        }
    }
}
```

```

exit();
printf("\nDo you want to buy more?... (Yes=1/No=0)");
scanf("%d",&x);
}while(x!=0);
getch();
}

```

2. Write a C program to count the number of vowels in a given string and display all the vowels in it.

Ans:

```

#include<stdio.h>
main()
{
int count=0;
char *ch;
printf("Enter the String");
gets(ch);
while(*ch!=NULL)
{
if(*ch=='a' || *ch=='e' || *ch=='i' || *ch=='o' || *ch=='u')
{
printf("%c",*ch);
count++;
}
ch++;
}
printf("Total Number of Vowels=%d",count);
getch();
}

```

BCSL-021 / S2

3. Write an interactive program to perform the following computations (on Matrices A and B of order 3 x 3) by providing the options using a "Switch" statement : 30

- (i) Add 2 matrices
- (ii) Multiply 2 matrices
- (iii) Exit

Ans:

```

#include <stdio.h>
void add(int first[3][3],int second[3][3],int third[3][3])
{
int i,j;
printf( "addition(first+second):\n" );
for ( i = 0; i < 3;i++)
{
for ( j = 0; j < 3; j++)
{
third[i][j]=first[i][j]+second[i][j];
printf( "%d\t", third[i][j] );
}
printf( "\n" );
}
}

```

```

}
void mult(int first[3][3],int second[3][3], int third[3][3])
{
int i,j,k;
printf( "mul(first*second):\n" );
for ( i = 0; i < 3;i++)
{
for ( j = 0; j < 3; j++)
{
third[i][j]=0;
for(k=0;k<3;k++)
{
third[i][j]=third[i][j]+first[i][k]*second[k][j];
}
printf( "%d\t", third[i][j]);
}
printf( "\n" );
}
}
int main()
{
int i,j,k,c;
int first[3][3],second[3][3],third[3][3];
clrscr();

for ( i = 0; i < 3; i++ )
{
for ( j = 0; j < 3; j++ )
{
printf("enter the number into first array");
scanf("%d",&first[i][j]);
} }
//second array;
printf("\n\n");
for ( i = 0; i < 3; i++ )
{
for ( j = 0; j < 3; j++ )
{
printf("enter the number into second array");
scanf("%d",&second[i][j]);
} }
printf("\n.....MENU.....\n");
printf("\n1-Add\n");
printf("\n2-Multiply\n");
printf("\n3-Exit\n");
printf("Enter your choice(1,2,3)");
scanf("%d",&c);
switch(c)
{
case 1:
add(first,second,third);
}
}

```

```

break;
case 2:
mult(first,second,third);
break;
case 3:
exit();
default:
printf("wrong choice");
}
getch();
}

```

4. Write a C program to swap the values of 2 integer variables "a" and "b" and display them.

Ans:

```

#include<stdio.h>
void exchange(int a, int b)
{
int temp;
temp=a;
a=b;
b=temp;
printf("FORM FUNCTION ECHANGE:");
printf("a=%d, b=%d \n",a,b);
}
void main()
{
int x,y;
clrscr();
printf("ENTER TWO VALUE TO SWAP");
printf("VALUIE FOR MAIN;= A=%d \n B=%d\n",x,y);
exchange(x,y);
printf("BACK IN MAIN;");
printf("A=%d, B=%d\n",x,y);
getch();
}

```

BCSL-021 / S3

5. Write a C program to take the inputs Emp_No, Emp_Name, Sex, Age, Department, Designation, Basic_Pay, Address, Mobile_No and Email_Addr for 10 employees and store them in a .dat file (data file). Accept Emp_No from the user, search and display the Emp_No, Emp_Name, Department and Basic_Pay respectively.

Ans:

```

#include<conio.h>
#include<stdio.h>
struct emp
{
int emp_no;
char emp_name[10];
char sex;

```

```

int age;
char dept[10];
long int mob;
char email[30];
}s;
FILE *f1;
int eno;
int ch;
void input()
{
f1=fopen("b.data","ab");
printf("\nenter the Emp_no=");
scanf("%d",&s.emp_no);
printf("\nenter the name=");
scanf("%s",s.emp_name);
printf("\nenter the sex(m/f)=");
scanf("%s",&s.sex);
printf("\nenter age =");
scanf("%d",&s.age);

printf("enter the department");
scanf("%s",&s.dept);

printf("Enter the mobile");
scanf("%ld",&s.mob);
printf("Enter the email");
scanf("%s",s.email);
fwrite(&s,sizeof(s),1,f1);
fflush(stdin);
fclose(f1);
}
void disprecord()
{
f1=fopen("b.data","r+b");
fflush(f1);
rewind(f1);
while(fread(&s,sizeof(s),1,f1))
{
printf("\nEmp_No=%d\n",s.emp_no);
printf("Name=%s\n",s.emp_name);
printf("Age=%d\n",s.age);
printf("Department=%s\n",s.dept);
printf("Sex=%c\n",s.sex);
printf("Mobile=%ld\n",s.mob);
printf("Email=%s\n",s.email);
}
close(f1);
}
void searchrec()
{

```

```

f1=fopen("b.data","rb+");
printf("enter the Emp_NO.");
scanf("%d",&eno);
rewind(f1);
while(fread(&s,sizeof(s),1,f1))
{
if(eno==s.emp_no)
{
printf("\nEmp_No=%d\n",s.emp_no);
printf("Name=%s\n",s.emp_name);
printf("Age=%d\n",s.age);
printf("Department=%s\n",s.dept);
printf("Sex=%c\n",s.sex);
printf("Mobile=%ld\n",s.mob);
printf("Email=%s\n",s.email);
}}
close(f1);
}
main()
{
char chh='y';
do
{
clrscr();
printf("\n\t**PIXELES Classes for BCA & MCA from IGNOU**\n");
printf("\n*****\n");
printf("\n\n\t\t0-Exit the Program:");
printf("\n\n\t\t1-Open Add record:");
printf("\n\n\t\t2-Display Record:");
printf("\n\n\t\t3-Search Record:");
printf("\n\n*****\n\n");
printf("\n\n\t\tEnter your choice:");
scanf("%d",&ch);
switch(ch)
{
case 0:
exit(0);
break;
case 1:
input();
break;
case 2:
disprecord();
break;
case 3:
searchrec();
break;
default:
printf("\wrong choice");
}
}
}

```

```

}
printf("\n\nDo you want to continue(y/n)");
chh=getche();
}while(chh=='y');
getch();
}

```

6. Write a C program to find the smallest among the 3 numbers given as input.

Ans:

```

#include <stdio.h>
#include <string.h>
#define MAX(p,q) ((p < q) ? (q):(p))
#define BIGGEST(p,q,r) (MAX(p, q) < r)?(r):(MAX(p, q))
main()
{
printf("Largest number among%d", BIGGEST(41,23,33));
}

```

BCSL-021 / S4

7. Write an interactive C program to input 10 students' record in a data file (.dat) of BCA 2nd semester and take the input as ENo from the user, search and display the whole details of the respective student. Note : Use Structures and File Handling concepts.

Ans:

```

//You can input Any number of records.
#include<conio.h>
#include<stdio.h>
struct student
{
int eno;
char name[20];
char course[10];
long int mob;
char email[30];
}s;
FILE *f1;
int eno;
int ch;
void input()
{
f1=fopen("c.data","ab");
printf("\nenter the Eno=");
scanf("%d",&s.eno);
printf("\nenter the name=");
scanf("%s",s.name);
printf("\nenter the course=");
scanf("%s",&s.course);
printf("Enter the mobile");
scanf("%ld",&s.mob);
printf("Enter the email");
}

```

```

scanf("%s",s.email);
fwrite(&s,sizeof(s),1,f1);
fflush(stdin);
fclose(f1);
}
void disprecord()
{
f1=fopen("c.data","r+b");
fflush(f1);
rewind(f1);
while(fread(&s,sizeof(s),1,f1))
{
printf("\nEnrol No=%d\n",s.eno);
printf("Name=%s\n",s.name);
printf("Course=%s\n",s.course);
printf("Mobile=%ld\n",s.mob);
printf("Email=%s\n",s.email);
}
close(f1);
}
void searchrec()
{
f1=fopen("c.data","rb+");
printf("enter the Emp_NO.");
scanf("%d",&eno);
rewind(f1);
while(fread(&s,sizeof(s),1,f1))
{
if(eno==s.eno)
{
printf("\nEnrol No=%d\n",s.eno);
printf("Name=%s\n",s.name);
printf("Course=%s\n",s.course);
printf("Mobile=%ld\n",s.mob);
printf("Email=%s\n",s.email);
}
}
close(f1);
}
main()
{
char chh='y';
do
{
clrscr();
printf("\n\t**PIXELES Classes for BCA & MCA from IGNOU**\n");
printf("\n*****\n");
printf("\n\n\t\t0-Exit the Program:");
printf("\n\n\t\t1-Add record:");
printf("\n\n\t\t2-Display Record:");
printf("\n\n\t\t3-Search Record:");

```

```

printf("\n\n*****\n\n");
printf("\n\n\t\t\tEnter your choice:");
scanf("%d",&ch);
switch(ch)
{
case 0:
exit(0);
break;
case 1:
input();
break;
case 2:
disprecord();
break;
case 3:
searchrec();
break;
default:
printf("wrong choice");
}
printf("\n\nDo you want to continue(y/n)");
chh=getche();
}while(chh=='y');
getch();
}

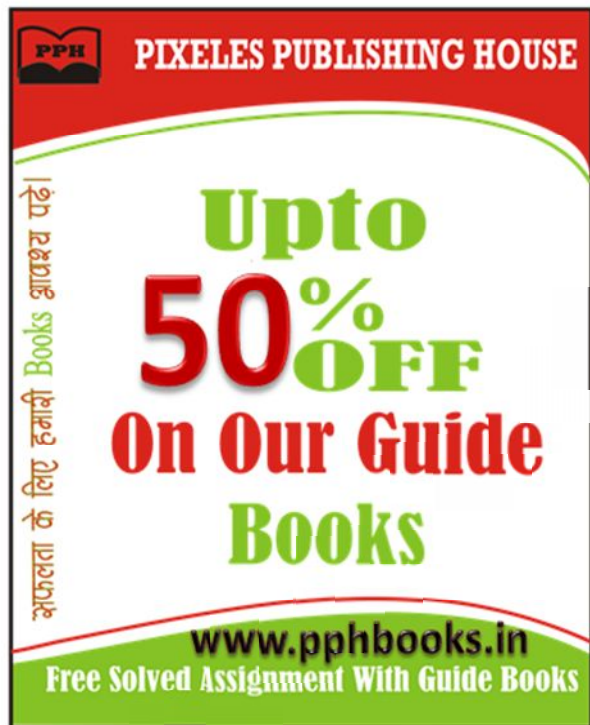
```

8. Write a C program to find the string length of a given string. Note : Should not use the "strlen()" function.

```

Ans:
#include<conio.h>
#include<stdio.h>
main()
{
char *ch;
int count=0;
printf("Enter the String");
gets(ch);
while(*ch!=NULL)
{
ch++;
count++;
}
printf("Length of String is =%d",count);
getch();
}

```



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