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Programme Name	Bachelor of Computer Applications
Course Code	23UCALC01
Course Title	Programming in C Lab
Semester	I
Unit	I
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PROGRAMMING IN C – LAB PROGRAMS

/* PROGRAM 1: FIND WHETHER THE GIVEN NUMBER IS ODD OR EVEN */

```
#include<stdio.h>
#include<conio.h>

void main()
{
  int num;
  clrscr();
  printf("Enter a Number : ");
  scanf("%d",&num);
  if((num%2)==0)
  {
          printf("\n Given number is...%d",num);
          printf("\n It is an EVEN Number");
  }
  else
  {
          printf("\n Given number is...%d",num);
          printf("\n It is an ODD Number");
  }
  getch();
}
```

OUTPUT

```
Enter a Number: 893

Given number is...893
It is an ODD Number


Enter a Number: 6504

Given number is...6504
It is an EVEN Number
```

/* PROGRAM 2: FIND THE GREATEST OF THREE NUMBERS */

```
#include<stdio.h>
#include<conio.h>

void main()
{
  int a,b,c;
  clrscr();
  printf("Enter A value : ");
  scanf("%d",&a);
  printf("Enter B value : ");
  scanf("%d",&b);
  printf("Enter C value : ");
  scanf("%d",&c);
  if ((a>b) && (a>c))
          printf("\n A is the BIGGEST Number");
  else if (b>c)
          printf("\n B is the BIGGEST Number");
  else
          printf("\n C is the BIGGEST Number");
  getch();
}
```

OUTPUT

```
Enter A value : 67
Enter B value : 890
Enter C value : 56

        B is the BIGGEST Number

Enter A value : 789
Enter B value : 56
Enter C value : 1023

        C is the BIGGEST Number

Enter A value : 6745
Enter B value : 89
Enter C value : 456

        A is the BIGGEST Number
```

/* PROGRAM 3: DISPLAY MONDAY TO SUNDAY USING SWITCH */

```
#include<stdio.h>
#include<conio.h>

void main()
{
  int day;
  clrscr();
  printf("Enter a Number[1 to 7] : ");
  scanf("%d",&day);
  switch(day)
  {
          case 1:
                  printf("\n First Day is SUNDAY");
                  break;
          case 2:
                  printf("\n Second Day is MONDAY");
                  break;
          case 3:
                  printf("\n Third Day is TUESDAY");
                  break;
          case 4:
                  printf("\n Fourth Day is WEDNESDAY");
                  break;
          case 5:
                  printf("\n Fifth Day is THURSDAY");
                  break;
          case 6:
                  printf("\n Sixth Day is FRIDAY");
                  break;
          case 7:
                  printf("\n Seventh Day is SATURDAY");
                  break;
          default:
                  printf("\n Enter the value between 1 to 7");
  }
  getch();
}
```

OUTPUT

Enter a Number[1 to 7] : 3

Third Day is TUESDAY

Enter a Number[1 to 7] : 7

Seventh Day is SATURDAY

Enter a Number[1 to 7] : 9

Enter the value between 1 to 7

/* PROGRAM 4: DISPLAY FIRST TEN NATURAL NUMBERS AND THEIR SUM */

```
#include<stdio.h>
#include<conio.h>

void main()
{
  int i,n,sum;
  clrscr();
  sum=0;
  printf("\n Natural Numbers \n");
  for(i=1;i<=10;i++)
  {
          printf("\n \t %d",i);
          sum=sum+i;
  }
  printf("\n\n Sum of the First TEN Natural Numbers = %d",sum);
  getch();
}
```

OUTPUT

```
Enter a Number : 10

 Natural Numbers

        1
        2
        3
        4
        5
        6
        7
        8
        9
        10


 Sum of the first TEN Natural Numbers = 55
```

/* PROGRAM 5: MULTIPLICATION OF TWO MATRICES */

```
# include<stdio.h>
# include<conio.h>

void main()
{
  int a[5][5],b[5][5],c[5][5];
  int n,i,j,k;
  clrscr();
  printf("\n Enter Order of Matrix : ");
  scanf("%d",&n);
  printf("\n Enter A Matrix : \n");

  for(i=1;i<=n;i++)
  {
    for(j=1;j<=n;j++)
    {
        scanf("%d",&a[i][j]);
    }
  }
  printf("\n Enter B Matrix : \n");

  for(i=1;i<=n;i++)
  {
    for(j=1;j<=n;j++)
    {
        scanf("%d",&b[i][j]);
    }
  }

  for(i=1;i<=n;i++)
  {
    for(j=1;j<=n;j++)
    {
        c[i][j] =0;
        for(k=1;k<=n;k++)
        {
          c[i][j] = c[i][j] + a[i][k] * b[k][j];
        }
    }
  }
```

```
printf("\n Given Matrix : A \n\n");
for(i=1;i<=n;i++)
{
 for(j=1;j<=n;j++)
    {
          printf("\t %d",a[i][j]);
     }
     printf("\n");
}
printf("\n Given Matrix : B \n\n");
for(i=1;i<=n;i++)
{
 for(j=1;j<=n;j++)
    {
          printf("\t %d",b[i][j]);
     }
     printf("\n");
}
printf("\n After Multiplication  : C \n\n");
for(i=1;i<=n;i++)
{
 for(j=1;j<=n;j++)
    {
          printf("\t %d",c[i][j]);
     }
     printf("\n");
}
getch();
}
```

OUTPUT

```
Enter Order of Matrix : 2

Enter A Matrix :
        3
        4
        2
        5

Enter B Matrix :
        3
        6
        4
        2

Given Matrix : A

      3      4
      2      5

Given Matrix : B

      3      6
      4      2

After Multiplication  : C

      25     26
      26     22
```

/* PROGRAM 6: PRINT FIBONACCI SERIES USING RECURSION */

```
#include<stdio.h>
#include<conio.h>

void main()
{
int num;
clrscr();
printf("\n Enter the Number : ");
scanf("%d",&num);
printf("Fibonacci Series: ");
printf("%d %d \n\n\t",0, "\n\t",1);
fib(n-2);
return 0;
getch();
}

int fib(int n)
{
    static int n1=0,n2=1,n3;
    if(n>0)
    {
            n3 = n1 + n2;
            n1 = n2;
            n2 = n3;
            printf("%d\n\t ",n3);
            fib(n-1);
     }
}
```

OUTPUT

```
 Enter the Number : 5

Fibonacci Series
        0
        1
        1
        2
        3
```

/* PROGRAM 7: REVERSE A STRING */

```
#include <stdio.h>
#include <string.h>

int main()
{
   char s[100];
   printf("Enter a string to reverse\n");
   gets(s);
   strrev(s);
   printf("Reverse of the string: %s\n", s);
   return 0;
}
```

OUTPUT

Enter a string to reverse**:** Welcome to CDAP

Reverse of the string: PADC ot emocleW

/* PROGRAM 8: FIND FACTORIAL OF A NUMBER USING FUNCTION */

```
#include<stdio.h>
#include<conio.h>

void main()
{
int num;
clrscr();
printf("\n Enter the Number : ");
scanf("%d",&num);
printf("\n\t Given Number is...%d",num);
printf("\n\n\t %d Factorial = %d",num,fact());
getch();
}

int fact(int n)
{
int f=1;
for(i=1;i<=n;i++)
{
     f=f*i;
}
return(f);
}
```

OUTPUT

```
 Enter the Number : 5

        Given Number is...5

        5 Factorial = 120
```

/* PROGRAM 9: SUM OF AN INTEGER ARRAY USING POINTERS */

```
#include<stdio.h>

int main()
{
  int array[5];
  int i,sum=0;
  int *ptr;
  printf("\nEnter array elements (5 integer values):");
  for(i=0;i<5;i++)
  {
        scanf("%d",&array[i]);
  }
  ptr = array;
  for(i=0;i<5;i++)
  {
        sum = sum + *ptr;
        ptr++;
  }
  printf("\n\nThe sum is: %d",sum);
}
```

OUTPUT

```
Enter array elements (5 integer values):
10
12
23
40
15

The sum is: 100
```

/* PROGRAM 10: COPY THE CONTENTS OF ONE FILE INTO ANOTHER */

```
#include <stdio.h>
#include <stdlib.h> // For exit()

int main()
{
   FILE *fptr1, *fptr2;
   char filename[100], c;
   printf("Enter the filename to open for reading: \n");
   scanf("%s", filename);
   fptr1 = fopen(filename, "r");
   if (fptr1 == NULL)
   {
      printf("Cannot open file %s \n", filename);
      exit(0);
   }
   printf("\n Enter the filename to open for writing: \n");
   scanf("%s", filename);
   fptr2 = fopen(filename, "w");
   if (fptr2 == NULL)
   {
      printf("\n Cannot open file %s \n", filename);
      exit(0);
   }
   c = fgetc(fptr1);
   while (c != EOF)
   {
      fputc(c, fptr2);
      c = fgetc(fptr1);
   }
   printf("\nContents copied to %s", filename);
   fclose(fptr1);
   fclose(fptr2);
   return 0;
}
```

OUTPUT

```
Enter the filename to open for reading:
a.txt

Enter the filename to open for writing:
b.txt

Contents copied to b.txt
```