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//01. C program to calculate the area
// and circumference of a circle

```
#include <stdio.h>
#include <conio.h>
#define PI 3.14
void main()
{
    float r, c, a;
    clrscr();
    printf("\n Enter the radius:");
    scanf("%f", &r);
    c = 2 * PI * r;
    a = PI * r * r;
    printf("\n Circumference = %.2f\n\n Area = %.2f", c, a);
    getch();
}
```

Cause for concern
The H5N1 subtype has the
potential to spill over to
other mammals such as
cats, seals and
birds when they
come in contact
with carcasses of
infected birds and
as reservoirs
of the virus could
adapt to new
hosts to further
spread the disease.
Scientists have
warned of a poten-
tial spillover
from mass mortal-
ities along Russia's
coast where a
virus was detected

a heal

regions with
yield large
seeds which
flour. Some
lets are pea
sorghum or
let or ragi.
are foxtail
the millet
nyard millets
is used in
Millet
foods for
Africa for
They are
need little
well in w
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12 milli
millets
Ministry
Farmer
happen
one in
millet
Niger
Th
Organ
decla

1102.

C Program to find the largest of three numbers

```
#include <stdio.h>
#include <conio.h>
void main()
{
    int a, b, c, l;
    clrscr();
    printf("\n Enter three numbers:");
    scanf("%d %d %d", &a, &b, &c);
    if (a > b)
        if (a > c)
            l = a;
        else
            l = c;
    else
        if (b > c)
            l = b;
        else
            l = c;
    printf("\n largest of three number: %d", l);
    getch();
}
```

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// 0.3 C Program to check if a given
// number is prime or not

```
#include <stdio.h>
#include <conio.h>
void main()
{
    int n, i, Flag = 0;
    clrscr();
    printf("\n Enter any value: ");
    scanf("%d", &n);
    for (i = 2; i < n; i++)
    {
        if (n % i == 0)
        {
            Flag = 1;
            break;
        }
    }
    if (Flag == 0)
        printf("\n Number is prime");
    else
        printf("\n Number is not prime");
    getch();
}
```


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/* 04. C Program to reverse a given number, find the Sum of the digits and check if the given number is palindrome or not */

```
#include <stdio.h>
#include <conio.h>
void main()
{
    int n, rev, rem, sum, n1;
    clrscr();
    printf("\n Enter any value:");
    scanf("%d", &n);
    sum = rev = 0;
    n1 = n;
    while (n > 0)
    {
        rem = n % 10;
        sum = sum + rem;
        rev = rev * 10 + rem;
        n = n / 10;
    }
    printf("\n Sum of the digits of the given number is: %d", sum);
    if (n1 == rev)
        printf("\n The number is a Palindrome");
    else
```

...the dis-
...number of birds
...through close contact
...with infected birds or con-
...taminated environments,
...and is often fatal. Recent
...reports of H5N1 spread be-
...ween mammals raise be-
...cerns about its potential to
...cause a human pandemic if
...it were to spill over and be-
...come transmissible among
...humans.

Cause for concern
The H5N1 subtype has the
potential to spill over to
other mammals such as
pigs, seals and
cats when the
birds in contact
with them or their
carcasses are
consumed. Some
birds and
mammals are
susceptible to the
virus and could
adapt to new
hosts to further
spread the virus.
Scientists have
warned of a poten-
tial avian spillover
in mass mortal-
ities along Russia's
coast where a
bird was detected

a health

regions with po-
yield large cro-
seeds which are
flour. Some ex-
lets are pearl m-
sorghum or jow-
let or ragi. The
are foxtail millet
the millet or sa-
nyard millet or
is used in bread

Millet have
foods for peop-
Africa for over
they are cli-
need little wa-
well in warmer
ments. India pro-
12 million me-
millets annual
Ministry of
Farmers Wel-
happens to
one in the wo-
millets, follow-
Niger (Helgil-
The Food
Organization
declared the

```
printf("\n The number is not a  
    Palindrome");  
getch();  
}
```

* Q5. C. Program to find the Sum of positive numbers untill the user press 999*/

```
#include <stdio.h>
#include <conio.h>
void main ()
{
    int n, sum = 0;
    clrscr();
    printf("\n Enter the Number:");
    printf("\n Note: Press 999 to Stop\n");
    do
    {
        scanf("%d", &n);
        if (n > 0 && n != 999)
            sum = sum + n;
    }
    while (n != 999);
    printf("\n Sum = %d", sum);
    getch();
}
```


// 06. C. program to accept percentage
// as input and display appropriate an
// appropriate message

```
#include <stdio.h>
#include <conio.h>
void main()
{
    int P;
    clrscr();
    printf("\n Enter percentage:");
    scanf("%d", &P);
    if (P >= 80)
        printf("\n Distinction");
    else if (P >= 60)
        printf("\n First class");
    else if (P >= 50)
        printf("\n Second class");
    else if (P >= 35)
        printf("\n Pass class");
    else
        printf("\n Re-apper");
    getch();
}
```

Q7. C program to find the roots of a quadratic equation.

```
#include <stdio.h>
#include <conio.h>
#include <math.h>
void main()
{
    float a, b, c, disc, r1, r2;
    clrscr();
    printf("\n Enter the co-efficients: ");
    scanf("%f %f %f", &a, &b, &c);
    disc = sqrt(b*b - 4*a*c);
    if (disc > 0)
    {
        r1 = (-b + disc) / (2*a);
        r2 = (-b - disc) / (2*a);
        printf("\n root 1 = %.2f root 2 = %.2f",
            r1, r2);
    }
    else if (disc == 0)
    {
        r1 = r2 = -b / (2*a);
        printf("\n root 1 = %.2f root 2 =
            %.2f", r1, r2);
    }
    else
        printf("\n Roots are imaginary");
}
```


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getch(),

}

// 08. C program to evaluate the average performance of n students

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

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

```
void main()
```

```
{
```

```
    int n, m[100], i, sum = 0;
```

```
    float avg;
```

```
    clrscr();
```

```
    printf("\n Enter number of student:");
```

```
    scanf("%d", &n);
```

```
    printf("\n Enter Marks:");
```

```
    for(i = 0; i < n; i++)
```

```
    {
```

```
        scanf("%d", &m[i]);
```

```
        sum = sum + m[i];
```

```
    }
```

```
    avg = (float) sum / n;
```

```
    printf("\n Average performance: %.2f", avg);
```

```
    getch();
```

```
}
```

// C program to remove duplicate elements
// in an array

```
#include <stdio.h>
#include <conio.h>
int rem_dup (int a[], int n)
```

```
{
    int t[10], i=10, j;
    for (i=10; i<n-1; i++)
        if (a[i] != a[i+1])
            t[i] = a[i];
    for (i=0; i<j; i++)
        a[i] = t[i];
    return j;
}
```

```
void main()
{
    int n, i, a[100];
    clrscr();
    printf("\n Enter number  
of elements: ");
    scanf ("%d", &n);
    for (i=0; i<n; i++)
        scanf ("%d", &a[i]);
    n = rem_dup (a, n);
    for (i=0; i<n; i++)
        printf ("%d", a[i]);
    getch();
}
```


10. C program to read, display and add two matrices using function/

```
#include <stdio.h>
#include <conio.h>
void read (int x[10][10], int m, int n);
void display (int x[10][10], int m, int n);
void add (int x[10][10], int y[10][10],
int z[10][10], int m,
int n);
```

```
void main()
{
```

```
    int m, n, a[10][10], b[10][10],
    c[10][10];
```

```
    clrscr();
```

```
    printf("\n Enter the order
of two matrices:");
```

```
    scanf("%d %d", &m, &n);
```

```
    printf("\n Enter matrix 1:");
```

```
    read (a, m, n);
```

```
    printf("\n Enter matrix 2:");
```

```
    read (b, m, n);
```

```
    add (a, b, c, m, n);
```

```
    printf("\n Sum of the two
matrices: \n");
```

```
    display (c, m, n);
```

```
    sub (a, b, c, m, n);
```

```

printf("\n Difference between the
two 0 matrices\n");
- display (c, m, n);
getch();
}

```

```

void read (int x[10][10], int m, int n)
{

```

```

    int i, j;
    for (i = 0; i < m; i++)
    for (j = 0; j < n; j++)
        scanf ("%d", &x[i][j]);
}

```

```

void add (int x[10][10], int y[10][10],
int x[10][10], int m, int n)
{

```

```

    int i, j;
    for (i = 0; i < m; i++)
    for (j = 0; j < n; j++)
        a[i][j] = x[i][j] + y[i][j];
}

```

```

}
void display (int x[10][10], int m, int n)
{

```

```

    int i, j;
    for (i = 0; i < m; i++)
        printf ("\t %d", x[i][j]);
    printf ("\n");
}

```

```

}

```

void sub (int x[10][10], int y[10][10], int
z[10][10], int m, int n)

{

int i, j;

for (i=0; i<m; i++)

for (j=0; j<n; j++)

z[i][j] = x[i][j] - y[i][j]

}

// 11. C program to find the factorial
// of a given number

```
#include <stdio.h>
#include <conio.h>
int fact(int n);
{
    int n, f;
    clrscr();
    printf("\n Enter any number:");
    scanf("%d", &n);
    f = fact(n);
    printf("\n factorial : %d", f);
    getch();
}
```

```
int fact(int n)
{
    if (n <= 1)
        return 1;
    else
        return n * fact(n-1);
}
```

★ 12. C program to generate fibonacci series ★

```
#include <stdio.h>
#include <conio.h>
int fibo (int n);
void main()
{
    int n, f, i;
    clrscr();
    printf("\n Enter number of terms:");
    scanf ("%d", &n);
    printf("\n fibonacci series:");
    for (i = 1; i <= n; i++)
    {
        f = fibo(i);
        printf("\t %d", f);
    }
    printf("\n factorial: %d", f);
    getch();
}

int fibo (int i)
{
    if (i <= 2)
        return i-1;
    else
        return fibo (i-1) + fibo (i-2);
}
```

13. C program to check if a given number is odd or even

```
#include <stdio.h>
#include <conio.h>
void main()
{
    int n;
    clrscr();
    printf("\n Enter a value :- ");
    scanf ("%d", &n);
    if (n % 2 == 0)
        printf("\n The number is even");
    else
        printf("\n The number is odd");
    getch();
}
```


/* 14. (program to find the length of a string without built-in functions*/

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

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

```
void main()
```

```
{
```

```
    int i = 0;
```

```
    clrscr();
```

```
    char s[20];
```

```
    printf("Enter a string:");
```

```
    getch();
```

```
}
```

/*15.C
in C */ Program to demonstrate String

```
#include <stdio.h>
#include <conio.h>
#include <string.h>
int menu()
{
    int ch;
    printf("\n MENU");
    printf("\n 1. Length");
    printf("\n 2. Copy");
    printf("\n 3. Compare");
    printf("\n 4. Reverse");
    printf("\n 5. Concatenate");
    printf("\n Enter your choice");
    scanf("%d", &ch);
    return ch;
}

void main()
{
    int len;
    char s1[20], s2[20], s3[30];
    clrscr();
    printf("\n Enter String 1:");
    gets(s1);
    printf("\n Enter String 2:");
    gets(s2);
    switch (menu())
```

{

Case 1: $len = strlen(s1);$ $printf("\text{length of string } \%s = \%d", s1, len);$
 $break;$ Case 2: $strcpy(s3, s1);$ $printf("\text{string } s1 = \%s", s1);$
 $printf("\text{copied string } s3 = \%s", s3);$
 $break;$ Case 3: $if (strcmp(s1, s2) == 0)$ $printf("\text{string } \%s \text{ and } \%s \text{ are equal}", s1, s2);$
 $else$ $printf("\text{string } \%s \text{ and } \%s \text{ are not equal}", s1, s2);$
 $break;$ Case 4: $strrev(s1);$ $printf("\text{Reversed string is } \%s", s1);$
 $break;$ Case 5: $strcat(s1, s2);$ $printf("\text{Concatenated string is } \%s", s1);$
 $break;$ default: $printf("\text{Invalid choice}");$

}

 $getchar();$

}

* 16. C program to read, display, add and subtract two matrices #1

```
#include <stdio.h>
#include <conio.h>
void read (int x[10][10], int m, int n);
void display (int x[10][10], int m, int n);
void add (int x[10][10], int y[10][10],
int z[10][10], int m, int n);
void main()
{
    int m, n, a[10][10], b[10][10], c[10][10];
    clrscr();
    printf("\n Enter the order of the
two matrices:");
    scanf("%d %d", &m, &n);
    printf("\n Enter matrix 1:");
    read(a, m, n);
    printf("\n Enter matrix 2:");
    read(b, m, n);
    add(a, b, c, m, n);
    printf("\n Sum of the two
matrices:\n");
    display(c, m, n);
    getch();
}

void read (int x[10][10], int m, int n)
```

```
int i, j;  
for (i = 0; i < m; i++)  
    for (j = 0; j < n; j++)  
        scanf ("%d", &x[i][j]);  
}
```

```
void add (int x[10][10], int y[10][10], int  
2 [10][10], int m, int n)  
{
```

```
    int i, j;  
    for (i = 0; i < m; i++)  
        for (j = 0; j < n; j++)  
            z[i][j] = x[i][j] + y[i][j];  
}
```

```
void display (int x[10][10], int m, int n)  
{
```

```
    int i, j;  
    for (i = 0; i < m; i++)  
    {  
        for (j = 0; j < n; j++)  
            printf ("%d", x[i][j]);  
        printf ("\n")  
    }  
}
```

```
}
```


17. C program to read a string and to find the number of alphabets, digits, vowels, consonants, spaces and special characters */

```
#include <stdio.h>
#include <conio.h>
void main()
{
    char s[50];
    int i = 0, ac = 0, dc = 0, vc = 0, cc = 0,
    bc = 0, sc = 0;
    clrscr();
    printf("\n Enter a string : ")
    gets(s);
    while (s[i] != '\0')
    {
        if (s[i] >= 'A' && s[i] <= 'Z' ||
            s[i] >= 'a' && s[i] <= 'z')
        {
            ac++;
            if (s[i] == 'A' || s[i] == 'E' ||
                s[i] == 'I' || s[i] == 'O' || s[i] == 'U' ||
                s[i] == 'a' || s[i] == 'e' || s[i] == 'i' ||
                s[i] == 'o' || s[i] == 'u')
            {
                vc++;
            }
            else
            {
                cc++;
            }
        }
        else if (s[i] >= '0' && s[i] <= '9')
        {
            dc++;
        }
        else if (s[i] == ' ')
        {
            bc++;
        }
        else
        {
            sc++;
        }
        i++;
    }
}
```



```

else if (s[i] >= '0' && s[i] <= '9')
    dc++;
else if (s[i] == ' ')
    bc++;
else
    sc++;
    i++;
}

```

```

printf("\n Given string %s", s1);
printf("\n Number of alphabets = %d", a);
printf("\n Number of vowels = %d", vc);
printf("\n Number of consonants = %d", c);
printf("\n Number of digits = %d", dc);
printf("\n Number of blank space = %d", bc);
printf("\n Number of Special char = %d", s);
getch();
}

```

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/* 18. C program to demonstrate call by reference */

```
#include <stdio.h>
#include <conio.h>
void swap(int *p1, int p2),
void main()
{
    int a, b;
    clrscr();
    printf("\n Enter two values:");
    scanf("%d %d", &a, &b);
    printf("Before Swapping");
    printf("\n a = %d, b = %d", a, b);
    swap(&a, &b);
    printf("\n after Swapping");
    printf("\n a = %d, b = %d", a, b);
    getch();
}

void swap (int *p1, int p2)
{
    int t;
    t = *p1;
    *p1 = *p2;
    *p2 = t;
}
```

19. To demonstrate student structure, to read and display records of n, students.

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

```
struct stud
```

```
{
```

```
    int rno;
```

```
    char name[20];
```

```
    char gender;
```

```
};
```

```
struct stud s[2];
```

```
void main()
```

```
{
```

```
    int n, i;
```

```
    clrscr();
```

```
    printf("\n Enter Reg. No:");
```

```
    scanf("%d", &s[i].rno);
```

```
    printf("\n Enter name:");
```

```
    fflush(stdin);
```

```
    gets(s[i].name);
```

```
    printf("\n Enter Gender:");
```

```
    scanf("%c", &s[i].gender);
```

```
}
```

```
    printf("\n Student Details:");
```



```
printf("\n Roll no. \t name \t \t  
Gender \t");  
printf("\n ===== \t ===== \t \t");  
for (i=0; i<n; i++)  
    printf("\n %d \t \t %s \t  
%d", d[i].rollno, s[i].name, s[i].gender);  
getch();  
}
```

* 20. C program to demonstrate the difference between Structure and union */

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

```
struct sample
```

```
{
```

```
    int m1;
```

```
    char m2;
```

```
};
```

```
union eg
```

```
{
```

```
    int m1;
```

```
    int m2;
```

```
};
```

```
void main()
```

```
{
```

```
    struct sample s1;
```

```
    union eg u1;
```

```
    printf("In Size of Struct sample\n");
```

```
    printf("%d", sizeof(struct sample));
```

```
    printf("In Size of union eg: %d",
```

```
    sizeof(union eg));
```

```
}
```