

Date:

WAP that accepts the marks of 5 subjects and finds the sum and percentage marks obtained by the student.

Code:

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

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

```
void main()
```

```
{
```

```
    int M1, M2, M3, M4, M5, sum, per;
```

```
    printf ("Enter the marks of 5 subjects\n");
```

```
    scanf ("%d %d %d %d %d", &M1, &M2, &M3, &M4, &M5);
```

```
    sum = M1 + M2 + M3 + M4 + M5;
```

```
    per = sum/5;
```

```
    printf ("Sum of Marks = %d\n", sum);
```

```
    printf ("percentage obtained = %d", per);
```

```
    getch();
```

```
}
```


Date:

WAP that calculate the Simple interest and compound interest. The principal amount, Rate and time are entered by Keyboard.

CODE:

```
#include <stdio.h>
#include <conio.h>
#include <math.h>
void main()
{
    float P, R, T, SI, CI;
    printf("Enter Amount, Rate and time respectively:");
    scanf("%f %f %f", &P, &R, &T);
    SI = (P * R * T) / 100;
    CI = (P * (Pow(1 + (R/100), T)));
    printf("Simple Interest = %f\n", SI);
    printf("Compound Interest = %f\n", CI);
    getch();
}
```


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WAP that calculates area and circumference of a circle.

CODE:

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

OUTPUT:

Enter the radius : 5.5

area = 94.985001

Circumference = 34.540001

Date:

WAP that accepts the temperature in centigrade and converts into fahrenheit using formula.

CODE:

```
#include <stdio.h>
#include <conio.h>
void main()
{
    float c, f;
    clrscr();
    printf("Enter the temperature in centigrade:");
    scanf("%f", &c);
    f = (9.0/5.0) * c + 32;
    printf("temperature in fahrenheit = %f", f);
    getch();
}
```

OUTPUT:

Enter the temperature in centigrade : 54
temperature in fahrenheit = 129.199997

WAP that Swap values of two variables using 3rd variable.

CODE:

```
#include <stdio.h>
#include <conio.h>
void main()
{
    int a, b, c;
    printf ("Enter two numbers:");
    scanf ("%d %d", &a, &b);
    printf ("Before Swap:\n");
    printf ("a = %d\n", a);
    printf ("b = %d", b);
    c = a;
    a = b;
    b = c;
    printf ("After Swap\n");
    printf ("a = %d\n", a);
    printf ("b = %d", b);
    getch();
}
```

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WAP that checks whether two numbers entered by user are equal or not.

CODE:

```
#include <stdio.h>
#include <conio.h>
void main()
{
    int a, b;
    clrscr();
    printf ("Enter the value of a and b:");
    scanf ("%d %d", &a, &b);
    if (a == b)
    {
        printf ("Two numbers are equal");
    }
    else
    {
        printf ("Two numbers are not equal");
    }
    getch();
}
```

OUTPUT:

enter two numbers: 581
b

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WAP to find greatest of 3 numbers.

CODE:

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


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else

{

printf ("%.d is largest", c);

}

getch();

}

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WAP to find whether a given number is even or odd.

CODE:

```
#include <stdio.h>
#include <conio.h>
void main()
{
    int a;
    clrscr();
    printf ("Enter any number :");
    scanf ("%d", &a);
    if (a % 2 == 0)
    {
        printf ("Number you entered is even");
    }
    else
    {
        printf ("Number you entered is odd");
    }

    getch();
}
```


WAP that tells whether a given year is leap year ^{or} not.

CODE :

```
#include <stdio.h>
#include <conio.h>
void main ()
{
    int y;
    clrscr();
    printf ("Enter year:");
    scanf ("%d", &y);
    if (y % 4 == 0)
    {
        if (y % 100 != 0)
        {
            printf ("%d is leap year", y);
        }
        else
        {
            if (y % 400 == 0)
            {
                printf ("%d is leap year", y);
            }
            else
            {
                printf ("%d is not leap year", y);
            }
        }
    }
}
```


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```
else  
{  
    printf ("%d is not leap year");  
}  
getch();  
}
```


Date:

WAP that accepts marks of five Subjects and find percentage and print grades according to following criteria:

Between 90-100% -- Print A

80-90% -- Print B

60-80% -- Print C

Below 60% -- Print D

CODE

```
#include <stdio.h>
#include <conio.h>
void main()
{
    float per;
    int M1, M2, M3, M4, M5, Sum, per;
    printf("Enter the marks of 5 subjects\n");
    scanf("%d %d %d %d %d", &M1, &M2, &M3, &M4, &M5);
    Sum = M1 + M2 + M3 + M4 + M5;
    per = Sum/5;
    printf("Percentage obtained = %.1f", per);
    printf("\n");
    if (per > 90 && per < 100)
    {
        printf("Grade A");
    }
    else if (per > 80 && per < 90)
    {
        printf("Grade B");
    }
}
```



```

else if (per > 60 && per < 80)
{
    printf ("Grade C");
}
else
{
    printf ("Grade D");
}
getch();
}
    
```


WAP that takes two operands and one operator from user. perform the operation and prints the result by using Switch Stmt.

CODE%

```
#include <stdio.h>
#include <conio.h>
void main()
{
    int a, b, c;
    char op;
    printf ("Enter one number, operator (eg *, +, -, /, %),\nSecond number:");
    scanf ("%d %c %d", &a, &op, &b);
    switch (op)
    {
        case '+': c = a + b;
                    break;
        case '-': c = a - b;
                    break;
        case '/': c = a / b;
                    break;
        case '*': c = a * b;
                    break;
        case '%': c = a % b;
                    break;
        default: printf ("Invalid input");
    }
    printf ("%d %c %d", a, op, b, c);
    getch();
}
```


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WAP to print the sum of all numbers up to given number.

CODE :

```
#include <stdio.h>
#include <conio.h>
void main()
{
    int n, sum, i;
    clrscr();
    printf ("Enter the number upto which you want sum");
    scanf ("%d", &n);
    for (i=1; i<=n; i++)
    {
        sum += i;
    }
    printf ("Sum of numbers upto %d is %d", n, sum);
    getch();
}
```


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WAP to find the factorial of a given number

CODE:

```
#include <stdio.h>
#include <conio.h>
void main()
{
    int n, f = 1; i;
    clrscr();
    printf ( "Enter the number whose factorial you
              want :");
    scanf ( "%d", &n);
    for ( i = 1; i <= n; i++)
    {
        f = f * i;
    }
    printf ("Factorial of number %d is %d", n, f);
    getch();
}
```


WAP to print sum of even numbers and odd numbers from 1 to n numbers.

Code:

```
#include <stdio.h>
#include <conio.h>
void main()
{
    int n, even = 0, i, odd = 0;
    clrscr();
    printf("Enter the number upto which you want sum of even and odd numbers:");
    scanf("%d", &n);
    for (i = 1; i <= n; i++)
    {
        if (i % 2 == 0)
        {
            even += i;
        }
        else
        {
            odd += i;
        }
    }
    printf("Sum of odd numbers: %d", odd);
    printf("Sum of even numbers are: %d", even);
    getch();
}
```


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WAP to check whether the number is prime or not

CODE:

```
#include <stdio.h>
#include <conio.h>
void main()
{
    int n, i, count = 0;
    clrscr();
    printf("Enter the number you want to check:");
    scanf("%d", &n);
    for (i = 1; i <= n; i++)
    {
        if (n % i == 0)
        {
            count++;
        }
    }
    if (count == 2)
    {
        printf("number you entered is prime");
    }
    else if (count == 1)
    {
        printf("1 is neither prime nor composite");
    }
    else
    {
        printf("number you entered is composite");
    }
    getch();
}
```


WAP to find the sum of digits of entered number

CODE %

```
#include <stdio.h>
#include <conio.h>
void main()
{
    long int i, n, m, d, sum = 0;
    clrscr();
    printf ("Enter any number whose sum of digits\nyou want :");
    scanf ("%ld", &n);
    m = n;
    while (m != 0)
    {
        d = m % 10;
        sum += d;
        m = m / 10;
    }
    printf ("Sum of digits of number %ld is: %ld", n, sum);
    getch();
}
```


Date:

WAP to find reverse of a number

CODE:

```
#include <stdio.h>
#include <conio.h>
void main()
{
    long int n, m, rev = 0;
    int d;
    clrscr();
    printf("Enter any number whose reverse you want:");
    scanf("%ld", &n);
    m = n;
    while (m != 0)
    {
        d = m % 10;
        rev = (rev * 10) + d;
        m = m / 10;
    }
    printf("Reverse of number %ld is: %ld", n, rev);
    getch();
}
```


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WAP to print Armstrong numbers from 1 to 100.

```
#include <stdio.h>
#include <conio.h>
int #include <math.h>
void main()
{
    int i, j, k, c, sum, d;
    for (i=1; i<=100; i++)
    {
        c=0; sum=0;
        for (j=i, j!=0; j=j/10)
        {
            c++;
        }
        for (k=i; k!=0; k=k/10)
        {
            d=k%10;
            sum = sum + pow(d, c);
        }
        if (sum == i)
        {
            printf ("%d\n", i);
        }
    }
    getch();
}
```


WAP to convert binary number into decimal.

CODE:

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

void main()
{
    int c, n, sum=0, e, d=-1;
    printf("Enter the binary number eg. 0101011n:");
    scanf("%i", &c);
    for (n=c; n!=0; n=n/10)
    {
        e = n%10;
        d++;
        sum = sum + (e * pow(2, d));
    }
    printf("Binary number %i into decimal is", c);
    printf("%i", sum);
    getch();
}
```


Date:

WAP that Simply take elements of array from user and finds the sum of these elements

CODE:

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

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

```
void main()
```

```
{ int a[20], i, n, sum = 0;
```

```
clrscr();
```

```
printf ("Enter number of elements you want in array\n");
```

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

```
printf ("enter elements :\n");
```

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

```
{
```

```
printf ("element at %dth index =", i);
```

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

```
}
```

```
printf ("array is :\n");
```

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

```
{
```

```
printf ("%d ", a[i]);
```

```
}
```

```
printf ("\n");
```

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

```
{
```

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

```
}
```

```
printf ("Sum of elements of above array is: %d", sum);
```

```
getch();
```

```
}
```


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WAP to find minimum and maximum element of array.
code:

```
#include <stdio.h>
#include <conio.h>
void main()
{
    int a[50], b[50], c[50], n, i;
    clrscr();
    printf("Enter number of elements you want in arrays: \n");
    scanf("%d", &n);
    printf("Enter elements of 1st array: \n");
    for (i=0; i<n; i++)
    {
        printf("element at %dth index = ", i);
        scanf("%d", &a[i]);
    }
    printf("1st array is: \n");
    for (i=0; i<n; i++)
    {
        printf("%d", a[i]);
    }
    printf("\n");
    printf("Enter elements of 2nd array: \n");
    for (i=0; i<n; i++)
    {
        printf("Enter element at %dth index: ", i);
        scanf("%d", &b[i]);
    }
}
```



```
printf ("\n");
```

```
printf ("2nd array is:\n");
```

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

```
{
```

```
    printf ("%d", b[i]);
```

```
}
```

```
printf ("\n");
```

```
printf ("sum of above two array is:\n");
```

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

```
{
```

```
    c[i] = a[i] + b[i];
```

```
    printf ("%d", c[i]);
```

```
}
```

```
getch();
```

```
}
```


Date:

WAP to find minimum and Maximum element of the array.

CODE :

```
#include <stdio.h>
#include <conio.h>
void main()
{
    int a[50], n, i, largest = a[0];
    clrscr();
    printf ("enter number of elements you want in the array \n");
    scanf ("%d", &n);
    printf ("Enter elements: \n");
    for (i=0; i<n; i++)
    {
        printf ("element at %dth index = ", i);
        scanf ("%d", &a[i]);
    }
    printf ("Array is: \n");
    for (i=0; i<n; i++)
    {
        printf ("%d", a[i]);
    }
    printf ("\n");
    for (i=1; i<n; i++)
    {
        if (a[i] > largest)
        {
            largest = a[i];
        }
    }
```


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```
int smallest = a[0];
```

```
for (i=1; i<n; i++)
```

```
{
```

```
    if (a[i] < smallest)
```

```
    {
```

```
        smallest = a[i];
```

```
    }
```

```
}
```

```
printf ("%d is largest\n", largest);
```

```
printf ("%d is smallest", smallest);
```

```
getch();
```

```
}
```


Date:

WAP to search an element in array, using
linear search:

CODE:

```
#include <stdio.h>
#include <conio.h>
void main()
{
    int a[50], n, i, m;
    clrscr();
    printf("enter number of elements you want:\n");
    scanf("%d", &n);
    printf("enter elements:\n");
    for (i=0; i<n; i++)
    {
        printf("element at %d-th index = ", i);
        scanf("%d", &a[i]);
    }
    printf("Array is:\n");
    for (i=0; i<n; i++)
    {
        printf("%d", a[i]);
    }
    printf("\n");
    printf("enter the element you want to search:");
    scanf("%d", &m);
    for (i=0; i<n; i++)
    {
        if (a[i] == m)
        {
            printf("%d is found at %d-th index", a[i], i);
        }
    }
    getch();
}
```


Date:

WAP to add and multiply two Matrices of order $m \times m$.

CODE:

```
#include <stdio.h>
#include <conio.h>
void main()
{
    int n, a[m][m], i, j, b[m][m], c[m][m], d[m][m];
    clrscr();
    printf("Enter the order of Matrix");
    scanf("%d", &n);
    printf("Enter the entries of 1st matrix");
    for (i = 0; i < n; i++)
    {
        for (j = 0; j < n; j++)
        {
            scanf("%d", &a[i][j]);
        }
    }
    printf("Enter the entries of 2nd Matrix");
    for (i = 0; i < n; i++)
    {
        for (j = 0; j < n; j++)
        {
            scanf("%d", &b[i][j]);
        }
    }
}
```



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

```
{
```

```
    for (j=0; j<m; j++)
```

```
    {
```

```
        c[i][j] = a[i][j] + b[i][j];
```

```
        d[i][j] = 0
```

```
    }
```

```
        for (k=0; k<m; k++)
```

```
        {
```

```
            d[i][j] += a[i][k] * b[k][j];
```

```
        }
```

```
    }
```

```
}
```

```
printf("Sum of first and second matrix\n");
```

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

```
{
```

```
    for (j=0; j<m; j++)
```

```
    {
```

```
        printf("%d\t", a[i][j]);
```

```
    }
```

```
    printf("\n");
```

```
}
```

```
printf("Product of 1st and 2nd matrix\n");
```

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

```
{
```

```
    for (j=0; j<m; j++)
```

```
    { printf("%d\t", d[i][j]);
```

```
    }
```

```
    printf("\n");
```

```
}
```

```
getch();
```

```
}
```


WAP to sort the elements of the array in ascending order using bubble sort technique.

CODE:

```
#include <stdio.h>
#include <conio.h>
void main()
{
    int n, a[n], i, j;
    printf("Enter the no. of elements in array:");
    scanf("%d", &n);
    printf("Enter the elements:");
    for (i = 0; i < n; i++)
    {
        scanf("%d", &a[i]);
    }
    for (j = 0; j < n; j++)
    {
        for (i = 0; i < n; i++)
        {
            if (a[i+1] < a[i])
            {
                t = a[i];
                a[i] = a[i+1];
                a[i+1] = t;
            }
        }
    }
    printf("Elements in ascending order:");
}
```


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

```
{
```

```
    printf ("%d\t", a[i]);
```

```
}
```

```
getch();
```

```
}
```


WAP to find sum of diagonal elements of $n \times n$ matrix
CODE:

```
#include <stdio.h>
#include <conio.h>
void main()
{
    int n, a[n][n]; i, j;
    printf("Enter the order of matrix");
    scanf("%d", &n);
    for (i=0; i<n; i++)
    {
        for (j=0; j<n; j++)
        {
            scanf("%d", &a[i][j]);
        }
    }
    for (i=0; i<n; i++)
    {
        c = c + a[i][i];
    }
    printf("Sum of diagonal elements = %d", c);
    getch();
}
```


WAP. to swap two elements using concept of pointer

CODE:

```
#include <stdio.h>
#include <conio.h>
void swap (int *, int *);
void main()
{
    int a, b;
    printf ("Enter any two numbers:");
    scanf ("%d %d", &a, &b);
    getch();
}
void swap (int *x, int *y)
{
    printf ("\n Before swap:");
    printf ("%d %d", *x, *y);
    *x = *x + *y;
    *y = *x - *y;
    *x = *x - *y;
    printf ("\n After swap:");
    printf ("%d %d", *x, *y);
}
```