***C PROGRAMS***

**1.C program to perform all arithmetic operations**

#include <stdio.h>

int main(void) {

 double num1, num2;

 printf("Enter two numbers: ");

 scanf("%lf %lf", &num1, &num2);

 printf("Sum: %lf\n", num1 + num2);

 printf("Difference: %lf\n", num1 - num2);

 printf("Product: %lf\n", num1 \* num2);

 printf("Quotient: %lf\n", num1 / num2);

 return 0;

}

**2. C program to find area of a triangle if base and height are given**

#include <stdio.h>

int main(void) {

 double base, height, area;

 printf("Enter the base of the triangle: ");

 scanf("%lf", &base);

 printf("Enter the height of the triangle: ");

 scanf("%lf", &height);

 area = (base \* height) / 2;

 printf("The area of the triangle is: %lf\n", area);

 return 0;

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}

**3. C program to find all angles of a triangle if two angles are given.**

#include <stdio.h>

int main(void) {

 double angle1, angle2, angle3;

 printf("Enter the first angle of the triangle: ");

 scanf("%lf", &angle1);

 printf("Enter the second angle of the triangle: ");

 scanf("%lf", &angle2);

 angle3 = 180 - angle1 - angle2;

 printf("The third angle of the triangle is: %lf\n", angle3);

 return 0;

}

**4. C program to convert days in to years, weeks and days.**

#include <stdio.h>

int main(void) {

 int days, years, weeks, remainingDays;

 printf("Enter the number of days: ");

 scanf("%d", &days);

 years = days / 365;

 weeks = (days % 365) / 7;

 remainingDays = (days % 365) % 7;

 printf("Years: %d\n", years);

 printf("Weeks: %d\n", weeks);

 printf("Days: %d\n", remainingDays);

 return 0;

}

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**5. C program to find power and square root of any number.**

// C program for the above approach

#include <math.h>

#include <stdio.h>

// Function to find the square-root of N

double findSQRT(double N) { return sqrt(N); }

// Driver Code

int main()

{

// Given number

int N = 12;

// Function call

printf("%f ", findSQRT(N));

return 0;

}

**6. C program to calculate total, average and percentage and grades of  five subjects.**

#include <stdio.h>

int main()

{

double sub1, sub2, sub3, sub4, sub5; double total, average, percentage;

char grade;

printf("Enter marks of five subjects: ");

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scanf("%lf%lf%lf%lf%lf", &sub1, &sub2, &sub3, &sub4, &sub5);

total = sub1 + sub2 + sub3 + sub4 + sub5;

average = total / 5;

percentage = (total / 500) \* 100;

if (percentage >= 90)

   grade = 'A';

else if (percentage >= 80 && percentage < 90)

   grade = 'B';

else if (percentage >= 70 && percentage < 80)

   grade = 'C';

else if (percentage >= 60 && percentage < 70)

   grade = 'D';

else

   grade = 'F';

printf("Total marks: %lf\n", total);

printf("Average marks: %lf\n", average);

printf("Percentage: %lf%%\n", percentage);

printf("Grade: %c\n", grade);

return 0;

}

**7. C program to check Least Significant Bit (LSB) and MSB of a**

**number using bitwise operator.**

#include<stdio.h>

Int main ()

{

int num,lsb,msb;

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printf("Enter a number: ");

scanf("%d", &num);

lsb = num & 1;

msb = num >> 31;

printf("Least Significant Bit: %d\n", lsb);

printf("Most Significant Bit: %d\n", msb);

return 0;

}

**8. C program to swap two numbers USING 3RD VARIABLE AND**

**WITHOUT 3RD VARIABLE.**

#include<stdio.h>

Int main ()

{

Int num1,num2,temp;

printf("Enter two numbers: ");

scanf("%d%d", &num1, &num2);

temp = num1;

num1 = num2;

num2 = temp;

printf("Swapped numbers using 3rd variable: %d %d\n", num1, num2);

num1 = num1 + num2;

num2 = num1 - num2;

num1 = num1 - num2;

printf("Swapped numbers without 3rd variable: %d %d\n", num1, num2);

return 0;

}

**9. C program to find maximum between three numbers using**

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**conditional operator AND Ternary Operator.**

#include<stdio.h>

Int main ()

{

Int num1,num2,num3;

printf("Enter three numbers: ");

scanf("%d%d%d", &num1, &num2, &num3);

int max = (num1 > num2) ? num1 : num2;

max = (max > num3) ? max : num3;

printf("Maximum using conditional operator: %d\n", max);

max = num1 > num2 ? (num1 > num3 ? num1 : num3) : (num2 > num3 ? num2 : num3);

printf("Maximum using ternary operator: %d\n", max);

return 0;

}

**10. C program to check alphabet, digit or special character using**

**Conditional operator.**

#include<stdio.h>

Int main ()

{

Char ch;

printf("Enter a character: ");

scanf("%c", &ch);

if (ch >= 'A' && ch <= 'Z' || ch >= 'a' && ch <= 'z')

   printf("The character is an alphabet.\n");

else if (ch >= '0' && ch <= '9')

   printf("The character is a digit.\n");

else

   printf("The character is a special character.\n");

return 0;

}

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**11. C program to calculate total electricity bill**

#include<stdio.h>

int main()

{

int unit;

double bill;

printf("Enter number of units consumed: ");

scanf("%d", &units);

if (units <= 100)

   bill = units \* 0.50;

else if (units <= 200)

   bill = 50 + (units - 100) \* 0.75;

else if (units <= 300)

   bill = 125 + (units - 200) \* 1.20;

else

   bill = 325 + (units - 300) \* 1.50;

printf("Total electricity bill: %.2lf\n", bill);

return 0;

}

**12. C program to create Simple Calculator AND Days of week**

**using switch case.**

#include <stdio.h>

int main() {

 char op;

 double first, second;

 printf("Enter an operator (+, -, \*, /): ");

 scanf("%c", &op);

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 printf("Enter two operands: ");

 scanf("%lf %lf", &first, &second);

 switch (op) {

   case '+':

     printf("%.1lf + %.1lf = %.1lf", first, second, first + second);

     break;

   case '-':

     printf("%.1lf - %.1lf = %.1lf", first, second, first - second);

     break;

   case '\*':

     printf("%.1lf \* %.1lf = %.1lf", first, second, first \* second);

     break;

   case '/':

     printf("%.1lf / %.1lf = %.1lf", first, second, first / second);

     break;

   // operator doesn't match any case constant

   default:

     printf("Error! operator is not correct");

 }

 return 0;

}

**13. C program to check vowel or consonant using switch case.**

#include <stdio.h>

int main()

{

   char c;

   printf("Enter a character: ");

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   scanf("%c", &c);

   switch (c)

   {

       case 'a':

       case 'e':

       case 'i':

       case 'o':

       case 'u':

       case 'A':

       case 'E':

       case 'I':

       case 'O':

       case 'U':

           printf("%c is a vowel.\n", c);

           break;

       default:

           printf("%c is a consonant.\n", c);

           break;

   }

   return 0;

}

**14. C program to check positive negative or zero using switch**

**case.**

#include <stdio.h>

int main()

{

int num;

printf("Enter a number: ");

scanf("%d", &num);

switch (num > 0)

{

   case 1:

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       printf("The number is positive.\n");

       break;

   case 0:

       switch (num < 0)

       {

           case 1:

               printf("The number is negative.\n");

               break;

           case 0:

               printf("The number is zero.\n");

               break;

       }

       break;

}

return 0;

**}**

**15. C program to check whether a triangle is Equilateral, Isosceles**

**or Scalene.**

include <stdio.h>

int main()

{

int side1, side2, side3

printf("Enter three sides of a triangle: ");

scanf("%d%d%d", &side1, &side2, &side3);

if (side1 == side2 && side2 == side3)

   printf("The triangle is Equilateral.\n");

else if (side1 == side2 || side2 == side3 || side1 == side3)

   printf("The triangle is Isosceles.\n");

else

   printf("The triangle is Scalene.\n");

return 0;

**}**

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**16. C program to print all natural numbers AND sum of it from 1**

**to n.**

#include <stdio.h>

int main()

{

int n, i, sum = 0;

printf("Enter a number: ");

scanf("%d", &n);

printf("All natural numbers from 1 to %d: ", n);

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

{

   printf("%d ", i);

   sum += i;

}

printf("\n");

printf("Sum of all natural numbers from 1 to %d: %d\n", n, sum);

return 0;

}

**17. C program to print all even numbers AND sum of it from 1 to n**

#include <stdio.h>

int main()

{

int n, i, sum = 0;

printf("Enter a number: ");

scanf("%d", &n);

printf("All even numbers from 1 to %d: ", n);

for (i = 2; i <= n; i += 2)

{

   printf("%d ", i);

