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| |  | | --- | | **1. Add Two Numbers Using Function** | | 2. Creating a void user defined function that doesn’t return anything | | 3. Find the square of any number | | 4. Check the given number is even or odd | | 5.Find the max number. | | 6.A program in C to swap two numbers using function | | 7. Greatest Common Divisor (GCD) using Functions in C | | 8. Simple sum, division, multiplication, remainder using function. | | 9. C program for calculating area of a circle using function. | | 10. C program to find reverse of a number. | | 11. print the summation of all digits of a number | | 12. Factorial program in C | | 13. Sample C Program to Print 1 to 100 | | 14. C Program to Check if a Given String is Palindrome | | 15. Write a program in C for matrix multiplication. | | 16.Write a program in c for prime number checker | | 17.C program to find nCr and nPr | | 18. C program to swap two number | | 19.Binary Search(algo) using function | | 20.Linear Search(algo) using function | | 21. (**Let’s play with recursion**) Reverse a sentence using (**recursion)** | | 22. Program to convert binary number to decimal | | 23. A recursive program that determines whether a given sentence is palindromic or not. | | 24. A recursive solution to find the second maximum number from a given set of integers. | | 25.All in one Calculator | |  | |  |   **INDEX** | |
| 1.  #include<stdio.h>    int main() {  int num1, num2, res;    printf("Enter the two numbers : ");  scanf("%d %d", &num1, &num2);      res = sum(num1, num2);    printf("Addition of two number is :%d",res);  return 0;  }    int sum(int num1, int num2) {  int num3;  num3 = num1 + num2;  return (num3);  } |
| 2.  #include <stdio.h>  void introduction()  {  printf("Hi\n");  printf("My name is shohn\n");  printf("How are you?");    }  int main()  {  /\*calling function\*/  introduction();  return 0;  } |
| 3.  #include <stdio.h>  double square(double num)  {  return (num \* num);  }  int main()  {  int num,n;    printf("Input any number for square : ");  scanf("%d", &num);  n = square(num);  printf("The square of %d is : %d\n", num, n);  return 0;  } |
| 4.  #include<stdio.h>  int isEven(int n)  {  if(n%2==0)  return 1;  else  return 0;  }  int main()  {  int num,ans,i,z;  printf("Enter Limit : ");  scanf("%d",&z);  for(i=1;i<=z;i++)  {  printf("\nEnter Number: %d : ",i);  scanf("%d",&num);  ans=isEven(num);  if(ans==1)  printf("%d is Even\n",num);  if(ans==0)  printf("%d is Odd\n",num);  }  return 0;  } |
| 5.  #include <stdio.h>    int max(int num1, int num2);    int main () {  int a,b;  printf("Enter numbers for max: ");  scanf("%d %d",&a,&b);  int ret;    ret = max(a, b);    printf( "Max value is : %d\n", ret );    return 0;  }    int max(int num1, int num2) {  int result;    if (num1 > num2)  result = num1;  else  result = num2;    return result;  } |
| 6.  #include<stdio.h>  void swap(int a, int b);    int main()  {  int m ,n;  scanf("%d %d",&m,&n);  printf("values before swap m = %d \nand n = %d\n", m, n);  swap(m, n);  }    void swap(int a, int b)  {  int tmp;  tmp = a;  a = b;  b = tmp;  printf("values after swap\n m = %d\n n = %d", a, b);  } |
| 7.  #include<stdio.h>    int main() {  int a, b;  printf("Enter 2 numbers:");  scanf("%d%d", & a, & b);  printf("Greatest Common Divisor is %d", gcd(a, b));    return 0;  }  int gcd(long a, long b) {  if (b == 0)  return a;  else  return gcd(b, a % b);  } |
| 8.  #include<stdio.h>  int sum (int a,int b)  {  int sum=a+b;  return sum;  }  int sub(int a,int b)  {  int sub=a-b;  return sub;  }  int multi(int a,int b)  {  int multi=a\*b;  return multi;  }  float div(int a,int b)  {  float div=(float)a/b;  return div;  }  int rem(int a,int b)  {  int rem=a%b;  return rem;  }  int main(){  int a,b,c;  printf("please enter the value of a & b :");  scanf("%d%d",&a,&b);  c=sum(a,b);  printf("the sum is %d\n",c);  c=sub(a,b);  printf("the sub is %d\n",c);  c=multi(a,b);  printf("the multi is %d\n",c);  float d;  d=div(a,b);  printf("the div is %.2f\n",d);  c=rem(a,b);  printf("the rem is %d\n",c);  return 0;  } |
| 9.  #include <stdio.h>  float areaOfcircle(float radius\_circle);  int main() {  float radius;  printf("Enter the radius of circle : ");  scanf("%f", &radius);  printf("Area of circle : %.2f", areaOfcircle(radius));  printf("\n");  return 0;  }  float areaOfcircle(float radius\_circle){  float area\_circle;  area\_circle = 3.14 \* radius\_circle \* radius\_circle;  return area\_circle;  } |
| 10.  #include <stdio.h>    int main()  {  int n, reverse = 0;    printf("Enter a number to reverse\n");  scanf("%d", &n);    while (n != 0)  {  reverse = reverse \* 10;  reverse = reverse + n%10;  n = n/10;  }    printf("Reverse of entered number is = %d\n", reverse);    return 0;  } |
| 11.  #include <stdio.h>  int sum (int a)  {  int r, sum=0;  while(a!=0){  r= a%10;  sum= sum+r;  a=a/10;  }  return sum;  }  int main ()  {  int a, s;  scanf("%d", &a);  s=sum(a);  printf("the sum is=%d", s);  return 0;  } |
| 12.  #include <stdio.h>  int fact(int n)  {  if(n<2) return 1;  return n \* fact(n-1);  }  int main()  {  int n, v;  scanf("%d", &n);  v = fact(n);  printf("%d\n", v);  return 0;  } |
| 13.  include<stdio.h>  int print (int number);  int main()  {  int num = 1;  print(num);  return 0;  }  int print (int number)  {  if(number <= 100)  {  printf("%d\t", number);  print(number + 1); // Calling Function recursively  }  } |
| 14.  #include <stdio.h>  #include <string.h>  void isPalindrome(char str[])  {    int l = 0;  int h = strlen(str) - 1;    while (h > l)  {  if (str[l++] != str[h--])  {  printf("%s is Not Palindrome", str);  return;  }  }  printf("%s is palindrome\n", str);  }  int main()  {  isPalindrome("abba");  isPalindrome("abbccbba");  isPalindrome("geeks");  return 0;  } |
| 15.  #include <stdio.h>  int multi(int first[10][10],int second[10][10],int multiply[10][10],int m,int q,int p){  int c,d,k,sum=0;  for (c = 0; c < m; c++) {  for (d = 0; d < q; d++) {  for (k = 0; k < p; k++) {  sum = sum + first[c][k]\*second[k][d];  }  multiply[c][d] = sum;  sum = 0;  }  }  return multiply[10][10];  }  int main()  {  int m, n, p, q, c, d, k, sum = 0;  int first[10][10], second[10][10], multiply[10][10];  printf("Enter the number of rows and columns of first matrix\n");  scanf("%d%d", &m, &n);  printf("Enter elements of first matrix\n");  for (c = 0; c < m; c++)  for (d = 0; d < n; d++)  scanf("%d",&first[c][d]);  printf("Enter the number of rows and columns of second matrix\n");  scanf("%d%d", &p, &q);  if (n != p)  printf("The matrices can't be multiplied with each other.\n");  else  {  printf("Enter the elements of second matrix\n");  for (c = 0; c < p; c++)  for (d = 0; d < q; d++)  scanf("%d",&second[c][d]);  multiply[c][d]=multi(first,second,multiply,m,q,p);  printf("Result after multiply of the matrices:\n");  for (c = 0; c < m; c++) {  for (d = 0; d < q; d++)  printf("%d\t", multiply[c][d]);  printf("\n");  }  }  return 0;  } |
| 16.  #include <stdio.h>  int checkPrimeNumber(int n);  int main()  {  int n, flag;  printf("Enter a positive integer: ");  scanf("%d",&n);  flag = checkPrimeNumber(n);  if(flag == 1)  printf("%d is not a prime number",n);  else  printf("%d is a prime number",n);  return 0;  }  int checkPrimeNumber(int n)  {  int i;  for(i=2; i <= n/2; ++i)  {  if(n%i == 0)  return 1;  }  return 0;  } |
| 17.  #include <stdio.h>  long factorial(int);  long find\_ncr(int, int);  long find\_npr(int, int);  int main()  {  int n, r;  long ncr, npr;  printf("Enter the value of n and r\n");  scanf("%d%d",&n,&r);  ncr = find\_ncr(n, r);  npr = find\_npr(n, r);  printf("%dC%d = %ld\n", n, r, ncr);  printf("%dP%d = %ld\n", n, r, npr);  return 0;  }  long find\_ncr(int n, int r)  {  long result;  result = factorial(n)/(factorial(r)\*factorial(n-r));  return result;  }  long find\_npr(int n, int r)  {  long result;  result = factorial(n)/factorial(n-r);  return result;  }  long factorial(int n)  {  int c;  long result = 1;  for (c = 1; c <= n; c++)  result = result\*c;  return result;  } |
| 18.  #include<stdio.h>  void main()  {  void swap(int,int);  int a,b,r;  printf("enter value for a&b: ");  scanf("%d%d",&a,&b);  swap(a,b);  }  void swap(int a,int b)  {  int temp;  temp=a;  a=b;  b=temp;  printf("after swapping the value for a & b is : %d %d",a,b);  } |
| 19.  #include <stdio.h>    int BinarySearching(int arr[], int max, int element)  {  int low = 0, high = max - 1, middle;  while(low <= high)  {  middle = (low + high) / 2;  if(element > arr[middle])  low = middle + 1;  else if(element < arr[middle])  high = middle - 1;  else  return middle;  }  return -1;  }    int main()  {  int count, element, limit, arr[50], position;  printf("Enter the Limit of Elements in Array:\t");  scanf("%d", &limit);  printf("Enter %d Elements in Array: \n", limit);  for(count = 0; count < limit; count++)  {  scanf("%d", &arr[count]);  }  printf("Enter Element To Search:\t");  scanf("%d", &element);  position = BinarySearching(arr, limit, element);  if(position == -1)  {  printf("Element %d Not Found\n", element);  }  else  {  printf("Element %d Found at Position %d\n", element, position + 1);  }  return 0;  } |
| 20.  #include <stdio.h>    long linear\_search(long [], long, long);    int main()  {  long array[100], search, c, n, position;    printf("Input number of elements in array\n");  scanf("%ld", &n);    printf("Input %d numbers\n", n);    for (c = 0; c < n; c++)  scanf("%ld", &array[c]);    printf("Input a number to search\n");  scanf("%ld", &search);    position = linear\_search(array, n, search);    if (position == -1)  printf("%d isn't present in the array.\n", search);  else  printf("%d is present at location %d.\n", search, position+1);    return 0;  }    long linear\_search(long a[], long n, long find) {  long c;    for (c = 0 ;c < n ; c++ ) {  if (a[c] == find)  return c;  }    return -1;  } |
| 21.  #include <stdio.h>  void reverseSentence();  int main()  {  printf("Enter a sentence: ");  reverseSentence();  return 0;  }  void reverseSentence()  {  char c;  scanf("%c", &c);  if( c != '\n')  {  reverseSentence();  printf("%c",c);  }  } |

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| 22.  #include <stdio.h>  #include <math.h>  int convertBinaryToDecimal(long long n);  int main()  {  long long n;  printf("Enter a binary number: ");  scanf("%lld", &n);  printf("%lld in binary = %d in decimal", n, convertBinaryToDecimal(n));  return 0;  }  int convertBinaryToDecimal(long long n)  {  int decimalNumber = 0, i = 0, remainder;  while (n!=0)  {  remainder = n%10;  n /= 10;  decimalNumber += remainder\*pow(2,i);  ++i;  }  return decimalNumber;  } |

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| 23.  #include <stdio.h>  int isvalid(char ch)  {  return (isalpha(ch) || isdigit(ch));  }  int ispalin(char \*s, int i, int j)  {  if(i>j)  return 1;  if(s[i]==s[j])  return ispalin(s, i+1, j-1); // try for next pair  return 0;  }  int main()  {  char str[100];  gets(str);  if(ispalin(str, 0, strlen(str)-1)==1)  printf("palindromic\n");  else  printf("not palindromic\n");  return 0;  } |
| 24.  #include <stdio.h>  void SMax(int i, int n, int \*a, int \*fbest, int \*sbest)  {  if(i==n-1)  {  \*fbest = a[i];  return;  }    if(\*sbest < a[i]) \*sbest = a[i];  SMax(i+1, n, a, fbest, sbest);  if(a[i] > \*fbest)  {  \*sbest = \*fbest;  \*fbest = a[i];  }  else if(a[i] > \*sbest) \*sbest = a[i];  }  int main()  {  int n, i, a[100];  int fbest, sbest;  scanf("%d", &n);  for(i=0; i<n; i++)  scanf("%d", &a[i]);  sbest = fbest = a[0];  SMax(0, n, a, &fbest, &sbest);    printf("%d\n", sbest);  return 0;  } |

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| 25.  #include <stdio.h>  #include <conio.h>  void addition(float a, float b);  void subtraction(float a, float b);  void multiplication(float a, float b);  void division(float a, float b);  void main()  {  char choice ;  float a,b ;  clrscr() ;  do  {  printf("\n Menu: \n") ;  printf("+ : Addition \n") ;  printf("- : Subtraction \n") ;  printf("\* : Multiplication \n") ;  printf("/ : Division \n") ;  printf("Q : Quit \n") ;  printf("Enter your choice: ") ;  scanf(" %c", &choice) ;  if(choice=='+' || choice=='-' || choice=='\*' || choice=='/')  {  printf("Enter 2 numbers: ") ;  scanf("%f %f", &a, &b);  }  switch(choice)  {  case '+' :  addition(a,b);  break;  case '-' :  subtraction(a,b);  break;  case '\*' :  multiplication(a,b);  break;  case '/' :  division(a,b);  break;  case 'q' :  break;  case 'Q' :  break;  default :  printf("Invalid Choice. Enter again.\n");  }  }  while(choice!='q' && choice!='Q');  getch() ;  }  void addition(float a, float b)  {  printf("Sum of two numbers is: %f \n", a+b) ;  }  void subtraction(float a, float b)  {  printf("Diffrence of two numbers is: %f \n", a-b) ;  }  void multiplication(float a, float b)  {  printf("Product of two numbers is: %f \n", a\*b) ;  }  void division(float a, float b)  {  printf("Result of division is: %f \n", a/b) ;  } |