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|  | NATIONAL INSTITUTE OF TECHNOLOGY  WARANGAL – 506 004  DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING  I B.Tech., II Semester  PSCP Lab Assignment-1, January 2020 |

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| 1 | Enter 4-digit number through keyboard. Write a program to obtain the sum of 1st and last digits of this number.  #include<iostream>  using namespace std;  int main()  {  int n,r1,r2;  cout<<"Enter the 4 digit number = ";  cin>>n;  r2 = n % 10;  r1 = n / 1000;  if (n<1000 || n>9999)  {  cout<<"invalid number";  }  else cout<<"required number is "<<r1+r2<<endl;  return 0;  }  Screenshot (2).png |
| 2 | Enterayear through keyboard. Write a program to determine whether the year is leap year or not. Use logical operators && and ||.  #include <iostream>  using namespace std;  int main()  {  int n;  cout<<"Enter the year to check = ";  cin>>n;  if ((n%100!=0 & n%4==0)||(n%100==0 & n%400==0))  {  cout<<"year is leap\n";  }  else cout<<"year is not leap\n";  return 0;  }  Screenshot (3).png |
| 3 | Write a program that will take three numbers from keyboard and find the maximum of these numbers. Then check whether the maximum number is even or odd.  #include<iostream>  using namespace std;  int main()  {  int a,b,c,temp;  cout<<"Enter the number to find the maxima and its eveness or oddness\nfirst No. =";  cin>>a;  cout<<"Second No. = ";  cin>>b;  cout<<"Third No. = ";  cin>>c;  temp = max(a,b);  temp = max(temp,c);  cout<<"so the max no is "<<temp;  if (temp%2==0)  {  cout<<" and the no is even\n";  }  else cout<<" and the no is odd\n";  return 0;  }  Screenshot (5) |
| 4 | Find out the sum of squares of first n numbers.  #include <iostream>  using namespace std;  int main()  {  int n,sum = 0;  cout<<"To find the sum of square of first n number enter n = ";  cin>>n;  for (int i = 1; i<= n; ++i)  {  sum = sum + i\*i;  }  cout<<"so the sum = "<<sum;  return 0;  }  Screenshot (5).png |
| 5 | Find out the average of n numbers.  #include <iostream>  using namespace std;  int main()  {  float n;  cout<<"Enter n to find average : ";  cin>>n;  cout<<"average = "<<n+1/2.0;  return 0;  }  Screenshot (6).png |
| 6 | The mark price and discount are entered through keyboard. Sometimes seller gets profit of x % or some time loss of y % depends on discount. Write a program to determine whether the seller has made profit or incurred loss. Also determine how much profit he made or loss incurred.Enter the cost price also through key board.  #include<iostream>  using namespace std;  int main()  {  float mrp,cp,sp,dis;  cout<<"Enter MRP = Rs.";  cin>>mrp;  cout<<"Enter cost price = Rs.";  cin>>cp;  cout<<"Enter Discount% = ";  cin>>dis;  sp = mrp - mrp\*dis/100;  if (sp>cp)  {  cout<<"seller has made profit\nprofit% = "<<(sp-cp)\*100.0/cp<<"\n profit = Rs."<<sp-cp<<endl;  }  else cout<<"seller has made loss\nloss% = "<<(cp-sp)\*100.0/cp<<"\n profit = Rs."<<cp-sp<<endl;  return 0;  }  Screenshot (8) |
| 7 | Write a program to print out all Armstrong numbers between 1 and 500. If sum of cubes of each digit of the number is equal to the number itself, then the number is called an Armstrong number. For example 153= (1\*1\*1) + (5\*5\*5) + (3\*3\*3).  #include<iostream>  using namespace std;  int main()  {  cout<<"Armstrong numbers between 1 and 500 is ";  for (int i = 1; i<= 500; ++i)  {  //int i = 153;  int r,s=0,k;  k = i;  for (int j = 0; k>0; ++j)  {  r = k%10;  s = s + r\*r\*r;  k = k/10;  }  if (s==i)  {  cout<<s<<", ";  }  }  cout<<endl;  return 0;  }  Screenshot (9) |
| 8 | There are 9000 people in a town whose population increases by 15% each year. Write a program that displays the annual population and determines the number of years it will take for the population to surpass 50000.  #include<iostream>  using namespace std;  int main()  {  float n = 9000,i=1;  cout<<"current population of town = 9000\nif the town's populationincreased by 15% every year then\n";  for ( i ; n<=50000; ++i)  {  n = n + n\*15.0/100.0;  cout<<"population increased to after "<<i<<" year = "<<n<<endl;  }  cout<<"so it will take "<<i-1<<" year to surpass 50000 population\n";  return 0;  }  Screenshot (10) |
| 9 | Write a program to print the sum of digits of any positive number  #include<iostream>  using namespace std;  int main()  {  int n, s=0,r;  cout<<"Enter a positive number to find the sum of its digits = ";  cin>>n;  if (n<0)  {  cout<<"Number is invalid<<endl";  }  else{  while(n>0){  r = n % 10;  n = n / 10;  s = s + r;  }  cout<<"Sum of digits = "<<s<<endl;  }  return 0;  }  Screenshot (12) |
| 10 | Write a program to receive Cartesian coordinates (x,y) of a points and convert them into polar co-ordinates(r,θ).  #include<iostream>  #include <math.h>  using namespace std;  int main()  {  double x,y,r,a;  cout<<"entre the coordinate (x,y) = ";  cin>>x>>y;  r = sqrt(x\*x+y\*y);  a = atan(y/x);  a = a \* 180 / 3.14159;  cout<<"the coordinates in polar form are (r,a) = ("<<r<<","<<a<<")\nwhere a is in degree";  return 0;  }  Screenshot (7).png |
| 11 | Write a program to receive values of latitude(L1,L2) and longitude (G1,G2), in degrees, of two places on the earth and output the distance(D) between then in nautical miles.  #include<cmath>  #include<iostream>  using namespace std;  int main()  {  long double d,la1,la2,lo1,lo2;  cout<<"Enter the position coordinate in degree\n";  cout<<"Enter \nLatitude start = ";  cin>>la1;  la1=la1\*3.14159/180;  cout<<"Latitude end = ";  cin>>la2;  la2=la2\*3.14159/180;  cout<<"Longitude start = ";  cin>>lo1;  lo1=lo1\*3.14159/180;  cout<<"Longitude end = ";  cin>>lo2;  lo2=lo2\*3.14159/180;  d=acos(sin(la1)\*sin(la2)+cos(la1)\*cos(la2)\*cos(lo1-lo2))\*6378/1.852;  cout<<"Distance in nautical miles = "<<d<<endl;  return 0;  }  Screenshot (8).png |
| 12 | Wind chill factor is the felt air temperature on exposed skin due to wind. The wind chill temperature is always lower than the air temperature. Write a program to calculate the wind chill factor.  #include<iostream>  #include<cmath>  using namespace std;  int main()  {  double temp,vel,wcf;  cout<<"Enter the temprature in\na.kelvin\nb.celsius\nc.fahrenhite\n";  char a;  cin>>a;  cout<<"Temprature = ";  cin>>temp;  switch(a){  case 'a':temp = temp - 273.15;  break;  case 'b':temp = temp;  break;  case 'c':(temp = 32\*temp - 32)\*5/9;  break;  default:cout<<"invalid input";  }  cout<<"Enter the velocity of wind in\na.km/hrs\nb.mile/hrs\nc.m/sec\n";  cin>>a;  cout<<"velocity = ";  cin>>vel;  switch(a){  case 'a':vel = vel;  break;  case 'b':vel = vel\*1.60934;  break;  case 'c':vel = vel\*3.6;  break;  default:cout<<"invalid input";  }  wcf = 13.12 + .6215\*temp - 11.37\*pow(vel,.16) + .3965\*temp\*pow(vel,.16);  cout<<"Wind chill factor = "<<wcf<<endl;  return 0;  }  Screenshot (9).png |
| 13 | If the value of an angle is input through the keyboard, write a program to print all its Trigonometric ratios.  #include <iostream>  #include <math.h>  using namespace std;  int main()  {  long a;  cout<<"entre the angle in degree = ";  cin>>a;  a = M\_PI\*a/180;  cout<<"sin(a) = "<<sin(a);  cout<<"\ncos(a) = "<<cos(a);  cout<<"\ntan(a) = "<<tan(a);  cout<<"\ncosec(a) = "<<1/sin(a);  cout<<"\nsec(a) = "<<1/cos(a);  cout<<"\ncot(a) = "<<1/tan(a);  return 0;  }  Screenshot (14) |
| 14 | Find the gcd and lcm of given two numbers  #include<iostream>  using namespace std;  int main()  {  int x,y;  cout<<"Enter numbers to find LCM and GCD of two numbers\nx = ";  cin>>x;  cout<<"y = ";  cin>>y;  for (int i = min(x,y); i> 0 ; i--)  {  if (x%i==0&y%i==0)  {  cout<<"GCD = "<<i<<endl;  break;  }  }  for (int i = max(x,y); ; ++i)  {  if (i%x==0&i%y==0)  {  cout<<"LCM = "<<i<<endl;  break;  }  }  return 0;  }  Screenshot (15) |
| 15 | Write a program to find the sum of first n terms of series:  1 + X + (X\*X) + (X\*X\*X) + (X\*X\*X\*X) +…………..  2! 3! 4!  #include<iostream>  using namespace std;  int main()  {  double n,x;  cout<<"entre no of terms in series n= ";  cin>>n;  cout<<"entre value of x = ";  cin>>x;  double sum = 1.0,k = 1.0;  for (double i = 1; i< n; ++i)  {  k = k \* x/i ;  sum = sum + k;  }  cout<<"sum = "<<sum;  return 0;  }  Screenshot (16) |
| 16 | Write a program to accept a number and find sum of its individual digits repeatedly till the result is a single digit. For example, if the given number is 4687 the output should be 7.  #include<iostream>  using namespace std;  int main()  {  int n,q;  cout<<"Enter the number = ";  cin>>n;  while(1){  int r,temp,s=0;  while(n>0){  r = n%10;  n = n/10;  s = s+r;  }  if(s<10){  cout<<"Required number = "<<s<<endl;  break;}  else n=s;  }  return 0;  }  Screenshot (17) |
| 17 | Write a program to get following output   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | A B C D E F G F E D C B A  A B C D E F F E D C B A  A B CDE E D C BA  A BCD D C BA  ABC C BA  AB BA  A A | |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | |  |  |  |  | 1 |  |  |  |  |  |  |  |  |  |  |  |  | |  |  |  | 1 |  | 1 |  |  |  |  |  |  |  | \* |  |  |  | |  |  | 1 |  | 2 |  | 1 |  |  |  |  |  | \* | \* | \* |  |  | |  | 1 |  | 3 |  | 3 |  | 1 |  |  |  | \* | \* | \* | \* | \* |  | | 1 |  | 4 |  | 6 |  | 4 |  | 1 |  | \* | \* | \* | \* | \* | \* | \* | |  | 1 |  | 3 |  | 3 |  | 1 |  |  |  | \* | \* | \* | \* | \* |  | |  |  | 1 |  | 2 |  | 1 |  |  |  |  |  | \* | \* | \* |  |  | |  |  |  | 1 |  | 1 |  |  |  |  |  |  |  | \* |  |  |  | |  |  |  |  | 1 |  |  |  |  |  |  |  |  |  |  |  |  | |   **a.**  #include<iostream>  using namespace std;  int main()  {  cout<<”Enter an alphabet in capital latter = “;  char a;  cin>>a;  int n;  n=a;  n=n-65;  char k='A';  for (int i = 0; i< n; ++i)  {  cout<<k;  k++;  }  k--;  for (int i = 0; i< n-1; ++i)  {  k--;  cout<<k;  }  cout<<endl;  for (int i = 1; i<= n-1; ++i)  {  char k='A';  for (int j = 1; j <=n-i ; ++j)  {  cout<<k;  k++;  }  for (int j =1 ; j <=2\*i-1 ; ++j)  {  cout<<" ";  }  for (int j = 1; j <=n-i ; ++j)  {  k--;  cout<<k;  }  cout<<endl;  }  }  Screenshot (10).png  **b.**  #include<iostream>  using namespace std;  int main()  {  cout<<”Enter a nuber to get pascal pattern = “;  int n,i;  cin>>n;  for ( i = 0; i<= n; ++i)  {  for (int j = 1; j <=n-i ; ++j)  {  cout<<" ";  }  int k=1;  for (int j = 0; j <= i; ++j)  {  if (j==0)  {  cout<<"1 ";  }  else{  k=k\*(i+1-j)/(j);  cout<<k<<" ";  }  }  cout<<endl;  }  for ( i = i-2; i>=0; i--)  {  for (int j = 1; j<=n-i ;j++)  {  cout<<" ";  }  int k=1;  for (int j = 0; j <=i; j++)  {  if (j==0)  {  cout<<"1 ";  }  else{  k=k\*(i+1-j)/j;  cout<<k<<" ";  }  }  cout<<endl;  }  return 0;  }  Screenshot (11).png  **c.**  #include <iostream>  using namespace std;  int main()  {  cout<<"Enter a number to get pattern = ";  int n;  cin>>n;  for (int i = 1; i<= n; ++i)  {  for (int j = 1; j <= n-i ; ++j)  {  cout<<" ";  }  for (int j = 1; j <=2\*i-1 ; ++j)  {  cout<<"\* ";  }  cout<<endl;  }  for (int i = 1; i<= n-1; ++i)  {  for (int j = 1; j <=i ; ++j)  {  cout<<" ";  }  for (int j = 1; j <=2\*(n-i)-1 ; ++j)  {  cout<<"\* ";  }  cout<<endl;  }  return 0;  }Screenshot (12).png |
| 18 | An equation of the form **ax^2+bx+c=0** is known as quadratic equation. The values of x that satisfy the equation are known as the roots of the equation. Write a program to find out the roots of the quadratic equation  #include<iostream>  #include<cmath>  using namespace std;  int main()  {  double a, b, c, x ,y;  cout<<"solution of Quadratic Equation ax^2+bx+c = 0 \n a = ";  cin>>a;  cout<<" b = ";  cin>>b;  cout<<" c = ";  cin>>c;  x=b/(2\*a);  y = sqrt((b\*b - 4\*a\*c)/4\*a\*a);  cout<<"value of x= "<<y-x<<endl<<"value of y= "<<-y-x;  return 0;  }  Screenshot (13).png |
| 19 | Write a program to find out the sum of the following series (up-to 30th term):  ……………….  #include<iostream>  #include<math.h>  using namespace std;  int main()  {  cout<<"Enter the value of x = ";  double x,s=0,r=1;  cin>>x;  s = x;  for (int i = 2; i<= 30; ++i)  {  r = r / ((2\*i-1)\*(2\*i-2));  s = s + r \* pow(x,(2\*i-1)) \* pow(-1,i-1);  }  cout<<"sum = "<<s<<endl;  } |
| 20 | Write a menu driven program which has following options  1-Factorial of a number  2-Prime or not  3-Odd or even  4. Nth Fibonacci number  5-Exit  Once a menu item is selected the appropriate option should be taken and once this option is finished, the menu should reappear .Unless the user selects the Exit option the program should continue work.  #include<iostream>  using namespace std;  int main()  {  int n;  do{  cout<<"1-Factorial of a number\n2-Prime or not\n3-Odd or even\n4. Nth Fibonacci number\n5-Exit\nChoose choice = ";  cin>>n;  if (n==1)  {  cout<<"Factorial of a number\nEnter number = ";  int num;  cin>>num;  int fact=1;  for (int i = 1; i<= num; ++i)  {  fact = fact \* i;  }  cout<<"Factorial = "<<fact<<endl;  }  else if (n==2)  {  int num,cou = 0;  cout<<"Prime or not\nEnter number = ";  cin>>num;  for (int i = 2; i< num; ++i)  {  if (num%i==0)  {  cou = cou +1;  break;  }  }  if (cou==0)  {  cout<<"Number is prime\n";  }  else cout<<"Number is not prime\n";  }  else if (n==3)  {  int num;  cout<<"Odd or even\nEnter number = ";  cin>>num;  if (num%2==0)  {  cout<<"Number is even\n";  }  else cout<<"Number is odd\n";  }  else if (n==4)  {  int num,s,a=0,b=1;  cout<<"Nth Fibonacci number\nEnter number = ";  cin>>num;  for (int i = 0; i< num-2; ++i)  {  s = a + b;  a = b;  b = s;  }  cout<<"Nth Fibonacci number = "<<s<<endl;  }  else if (n==5)  {  cout<<"Program Exited\n";  }  else cout<<"Invalid choice\n";  }while(n!=5);  return 0;  } |
| 21 | A user enters integers until end of input and wants to find the largest number in the list of integers entered and the number of times it was entered. For example, if the input is 5, 2, 15, 3, 7, 15, 8, 9, 5, 2, 15, 3, and 7, the largest is 15 and is repeated 3 times. Write an algorithm to compute frequency of the largest of the integers entered without storing them. Convert the algorithm to a function that displays the integers read and returns the largest number and its frequency.  **A.**  #include <iostream>  using namespace std;  int main()  {  int x,temp=0,n=1;  while(1){  char k;  cout<<"entre number(y/n)=";  cin>>k;  if (k=='n')  {  break;  }  else{  cin>>x;  if (temp<x)  {  temp=x;  n=1;  }  else if (x==temp)  {  n++;  }  }  }  cout<<"largest number is "<<temp<<" and is repeated "<<n<<" times\n";  return 0;  }    **B.**  #include <iostream>  using namespace std;  int function(int arr[],int n)  {  int temp = arr[0];  for (int i = 0; i< n; ++i)  {  if (temp<arr[i])  {  temp = arr[i];  }  }  return temp;  }  int frequency(int l,int arr[],int n)  {  int k=0;  for (int i = 0; i< n; ++i)  {  if (arr[i]==l)  {  k++;  }  }  return k;  }  int main()  {  cout<<"Enter number of elements = ";  int n,l;  cin>>n;  cout<<"Enter elements =";  int arr[n];  for (int i = 0; i<n ; ++i)  {  cin>>arr[i];  }  cout<<"your input values are ";  for (int i = 0; i< n; ++i)  {  cout<<arr[i]<<" ";  }  cout<<endl;  l = function(arr,n);  cout<<"Largest number is "<<l;  cout<<" and frequency is "<<frequency(l,arr,n)<<endl;  return 0;  } |
| 22 | Write a program that reads an integer -n (decimal number system) and convert this decimal number to Binary, Octal, and Hexadecimal form.  #include<iostream>  #include<cmath>  using namespace std;  int main()  {  cout<<"Enter the number to find its binary, octal and hexadecimal number = ";  long longn,r,s=0,a,b;  cin>>n;  a=n; b=n;  for (int i = 0; n>0; ++i)  {  r=n%8;  n=n/8;  s=s+r\*pow(10,i);  }  long long r1,s1=0;  for (int i = 0; a>0; ++i)  {  r1=a%2;  a=a/2;  s1=s1+r1\*pow(10,i);  }  cout<<"Binary = "<<s1<<endl;  cout<<"Octal = "<<s<<endl;  char A[100];  int temp=0;  int i=0;  while(b!=0){  temp = b % 16;  b = b / 16;  if (temp<10)  {  A[i]=temp+48;  i++;  }  else  {  A[i]=temp+55;  i++;  }  }  cout<<"hexadecimal = ";  for (int j = i-1; j>=0; j--)  {  cout<<A[j];  }  cout<<endl;  } |
| 23 | Given 3-angles.write a program to check whether they form a triangle or not (A+B+C =180). If yes check whether triangle is scalen, equilateral, isoceless or right angled triangle.  #include<iostream>  using namespace std;  int main()  {  int a,b,c,s=1;  cout<<"Enter the angle in degree to check\nA = ";  cin>>a;  cout<<"B = ";  cin>>b;  cout<<"C = ";  cin>>c;  if (a+b+c==180)  {  cout<<"These angle can form a triangle which is :\n";  if (a==60&b==60)  {  cout<<"("<<s<<"). Equiletral triangle.\n";  s++;  }  if ((a==b&b!=c)||(b==c&c!=a)||(c==a&a!=b))  {  cout<<"("<<s<<"). Isoceless triangle.\n";  s++;  }  if (a==90||b==90||c==90)  {  cout<<"("<<s<<"). Right angled triangle.\n";  s++;  }  if(s==1)  cout<<"("<<s<<"). Scalane triangle\n";  }  else cout<<"Angles do not form a triangle.\n";  return 0;  }  Screenshot (19).png |
| 24 | The Fibonacci numbers Fn are defined as follows. F0 is 1, F1 is 1 and Fi+2=Fi+Fi+1i=0,1,….nWrite a program to find the Fibonacci value of the given number.  #include<iostream>  using namespace std;  int main()  {  int n;  cout<<"Enter the number to find its fibonacci value = ";  cin>>n;  int f[n],temp1,temp2;  f[0]=1; f[1]=1;  temp1=1,temp2=1;  if (n>=2)  {  for (int i = 2; i<= n; ++i)  {  f[i]=temp2+temp1;  temp1=temp2;  temp2=f[i];  }  }  cout<<"Fibonacci value of given number is "<<f[n-1]<<endl;  return 0;  } |
| 25 | Write a program to print all the ASCII values and their equivalent characters using a while loop.  #include<iostream>  using namespace std;  int main()  {  int i=32;  char ch;  cout<<" ASCII Value\tEquivalent character\n";  while(i<127){  ch = i;  cout<<" "<<i<<"\t\t\t"<<ch<<endl;  i++;  }  return 0;  }  Screenshot (21).png  Screenshot (22).png |
| 26 | A way to calculate the value of π is based on the use of a series defines as follows(N- number of terms). Write a program to find π value (up to n terms and display the result by correcting it to three decimal places):  #include<iostream>  #include<cmath>  using namespace std;  int main()  {  long double pi=0;  for (long double i = 0; i<1700; ++i)  {  pi = pi + pow(-1,i) / (2\*i + 1);  }  pi = 4 \* pi;  cout<<"Value of pi = "<<pi<<endl;  return 0;  } |
| 27 | Write a program that accepts a year written as a four-digit numeral and outputs the year written in Roman numerals. Important Roman numerals are V –5 , X-10 , L-50 , C-100, D-500 and M-1,000.  #include <iostream>  using namespace std;  void printRoman(int number)  {  cout<<"Year in roman nuber = ";  int num[] = {1,4,5,9,10,40,50,90,100,400,500,900,1000};  string sym[] = {"I","IV","V","IX","X","XL","L","XC","C","CD","D","CM","M"};  int i=12;  while(number>0)  {  int div = number/num[i];  number = number%num[i];  while(div>0)  {  cout<<sym[i];  div--;  }  i--;  }  cout<<endl;  }  int main()  {  int number;  cout<<"Enter year = ";  cin>>number;  printRoman(number);  return 0;  } |
| 28 | Write a function power(a,b) , to calculate the value of a raised to b. #include<iostream>  using namespace std;  int power(int a,int b)  {  int s=1;  for (int i = 0; i< b; ++i)  {  s=s\*a;  }  return(s);  }  int main()  {  int x,y;  cout<<"To calculate the value of a raised to b Enter (a,b) = ";  cin>>x>>y;  cout<<power(x,y)<<endl;  return 0;  } |
| 29 | A positive integer is entered through the keyboard, write a function to find the binary equivalent of this number:   1. without using recursion   #include<iostream>  #include<cmath>  using namespace std;  int main()  {  cout<<"Enter a positive integer to find its binary equivalent = ";  int n,r,s=0,i=0;  cin>>n;  while(n>0){  r = n % 2;  s = s + r\*pow(10,i);  n = n / 2;  i++;  }  cout<<"Binary equivalent = "<<s<<endl;  return 0;  }     1. using recursion   #include<iostream>  using namespace std;  int binary(int n)  {  if(n!=0)  return((n%2) + 10\*binary(n/2));  else return 0;  }  int main()  {  cout<<"Enter a positive to find its binary equivalent = ";  int n;  cin>>n;  cout<<"Binay equivalent = "<<binary(n)<<endl;  return 0;  } |
| 30 | Write a program for towers of Hanoi, using recursive function |