**Control Statements:-**

**---------------------------------------------------------------------------------------------------------------**

1) Write a C Program to Find the factorial of a given number. User has to take the i/p at

runtime.

#include<stdio.h>

int main()

{

int long fact=1, n, r;

printf("Enter the number for which you want factorial:\n");

scanf("%ld", &n);

if(n<0)

{

printf("No factorial for negative number\n");

}

while(n>0)

{

fact=fact\*n;

n--;

}

printf("The factorial of the above mentioned number is %ld\n", fact);

}

2) Write a C Program to Find the sum of digits of a given number.

include<stdio.h>

int main()

{

int n, r, sum=0;

printf("Enter any number for which you want addition\n");

scanf("%d", &n);

while(n>0)

{

r=n%10;

sum=sum+r;

n=n/10;

}

printf("The total sum of the digits is %d\n", sum);

}

3) Write a C Program to reverse the digits of a given number.

#include<stdio.h>

int main()

{

int n, r, rev=0;

printf("Enter any number which you want to reverse\n");

scanf("%d", &n);

while(n>0)

{

r=n%10;

rev=rev\*10+r;

n=n/10;

}

printf("The digits after reversal is %d\n", rev);

}

4) Write a C program to convert a character. If it is Lower, convert it to Upper. and if it is

Upper convert it to Lower character.

#include<stdio.h>

int main()

{

char ch;

printf("Enter any character\n");

scanf("%c", &ch);

if(ch>='a' && ch<='z')

{

ch=ch-32;

printf("The entered character is small\nThe Capital letter of the same letter is %c\n", ch);

}

else if(ch>='A' && ch<='Z')

{

ch=ch+32;

printf("The entered character is capital letter\nThe small letter of the same letter is %c\n", ch);

}

else

{

printf("Invalid character\n");

}

}

5) Write a C program to print multiplication tables from 10 to 20.

#include<stdio.h>

int main()

{

int m, n, o;

for(m=10; m<=20; m++)

{

for(n=1; n<=10; n++)

{

o=m\*n;

printf("%d\*%d=%d\n", m, n, o);

}

printf("\n\n");

}

}

6) Write a C program to print first 100 prime numbers.

#include<stdio.h>

int main()

{

int n, i, j;

for(i=1; i<=100; i++)

{

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

{

if(i%j==0)

{

break;

}

}

if(j==i)

{

printf("%d\n", i);

}

}

}

7) Write a C program to print ArmStrong Numbers between 1 to 500.

#include<stdio.h>

int main()

{

int num, sum, r, i, j, cube;

for(i=1; i<=500; i++)

{

sum=0;

num=i;

while(num>0)

{

r=num%10;

cube=r\*r\*r;

sum=sum+cube;

num=num/10;

}

if(i==sum)

{

printf("%d\n", i);

}

}

}

8) Write a C program to print the binary of a given number( +ve or -ve numbers).

#include<stdio.h>

int main()

{

int n, i;

printf("Enter any number\n");

scanf("%d", &n);

for(i=31; i>=0; i--)

{

printf("%d", n>>i&1);

}

printf("\n");

}

9) Write a C program to reverse the bits of a given number.

#include<stdio.h>

int main()

{

int num, m, n, i, j;

printf("Enter any number\n");

scanf("%d", &num);

printf("Before reversal the binary of above number is: ");

for(i=31; i>=0; i--)

{

printf("%d", num>>i&1);

}

printf("\n");

for(i=31, j=0; j<i; i--, j++)

{

m=num>>i&1;

n=num>>j&1;

if(m!=n)

{

num=num^1<<i;

num=num^1<<j;

}

}

printf("After reversal of the bits the binary number is: ");

for(i=31; i>=0; i--)

{

printf("%d", num>>i&1);

}

printf("\n");

}

10) Write a C program to implement a Calculator using switch.

#include<stdio.h>

int main()

{

int n1, n2, n;

char op;

printf("Enter the operation:\n 1. Addition\n 2. Subtraction\n 3. Multiplication\n 4. Division\n");

scanf(" %c", &op);

printf("Enter first number\n");

scanf("%d", &n1);

printf("Enter second number\n");

scanf("%d", &n2);

switch(op)

{

case '1': n=n1+n2;

printf("%d+%d=%d\n", n1, n2, n);

break;

case '2': n=n1-n2;

printf("%d-%d=%d\n", n1, n2, n);

break;

case '3': n=n1\*n2;

printf("%d\*%d=%d\n", n1, n2, n);

break;

case '4': if(n2==0)

printf("Floating point exception error\n");

else

{

n=n1/n2;

printf("%d/%d=%d\n", n1, n2, n);

}

break;

default: printf("Invalid option\n");

}

}

11) Write a C program to find the complement of a given number and then print it's binary,

decimal, octal and Hexa decimal values.

Note : number can be either +ve or -ve. And observe the result satiesfying it's

formulae or not.

|  |
| --- |
| Formulae : 1's complement of (x) = - (x+1) |

#include<stdio.h>

int main()

{

int n, i, j;

printf("Enter the number\n");

scanf("%d", &n);

printf("Before complementing the binary equivalent of the number is: ");

for(i=31; i>=0; i--)

{

printf("%d", n>>i&1);

}

printf("\n");

printf("After complementing the number, the number is: ");

for(i=31; i>=0; i--)

{

n=n^1<<i;

}

printf("%d\n", n);

printf("The binary equivalent of the above number is: ");

for(i=31; i>=0; i--)

{

printf("%d", n>>i&1);

}

printf("\n");

printf("The decimal equivalent of the number after complement is: %d\n", n);

printf("The octal equivalent of the number after complement is: %o\n", n);

printf("The hexadecimal equivalent of the number after complement is: 0x%x\n", n);

}

12) Write a C program to find the 2's complement of a given number and then print it's

binay, decimal, octal and Hexa decimal values.

Note : number can be either +ve or -ve. And obeseve the result satiefying it's

formulae or not.

|  |
| --- |
| Formulae : 2's complement of (x) = - (x) |

#include<stdio.h>

int main()

{

int n, i, j;

printf("Enter the number\n");

scanf("%d", &n);

printf("Before complementing the binary equivalent of above number is: ");

for(i=31; i>=0; i--)

printf("%d", n>>i&1);

printf("\n");

printf("After two's complement the binary is: ");

for(i=31; i>=0; i--)

n=n^1<<i;

n=n+1;

for(i=31; i>=0; i--)

printf("%d", n>>i&1);

printf("\n");

printf("The decimal equivalent of above number is %d\n", n);

printf("The octal equivalent of above number is %o\n", n);

printf("The hexadecimal equivalent of above number is 0x%x\n", n);

}

13) Write a C program to find out power of given number without using pow() function.

#include<stdio.h>

int main()

{

int n1, n2, result=1, i;

char ch;

printf("Enter numbers like 12^2: \n");

scanf("%d%c%d", &n1, &ch, &n2);

for(i=1; i<=n2; i++)

{

result=n1\*result;

}

printf("%d%c%d=%d\n", n1, ch, n2, result);

}

14) Write a C program to find the complement of a perticular bit. User has to take the

position number at runtime.

#include<stdio.h>

int main()

{

int num, pos, i;

printf("Enter the number\n");

scanf("%d", &num);

printf("The binary of above number is: ");

for(i=31; i>=0; i--)

printf("%d", num>>i&1);

printf("\n");

printf("Enter the position for complementing\n");

scanf("%d", &pos);

num=num^(1<<pos);

for(i=31; i>=0; i--)

printf("%d", num>>i&1);

printf("\n");

}

15) Write a C program to print palindrome numbers between 1 to 1000.

(palindrome numbers means the numbers which are equal to its reverse.

Ex : 11,22,33,44,.........999. )

#include<stdio.h>

int main()

{

int n, temp, rev, r;

for(n=1; n<=1000; n++)

{

temp=n;

rev=0;

while(temp>0)

{

r=temp%10;

rev=rev\*10+r;

temp=temp/10;

}

if(n==rev)

{

printf("%d\t", n);

}

}

}

16) Write a C program to print fibonacci series between 0 to 50.

#include<stdio.h>

int main()

{

int i, a=0, b=1, c;

for(i=0; a<=50; i++)

{

printf("%d\t", a);

c=a+b;

a=b;

b=c;

}

}

17) Write a C program to find the given number is power of 2 or not.

#include<stdio.h>

int main()

{

int x;

printf("Enter any number\n");

scanf("%d", &x);

if((x&(x-1))==0)

printf("Above number is power of 2\n");

else

printf("Not power of 2\n");

}

18) Write a C program to find out the biggest number of three variables using if-else ladder

and terinary operator.

#include<stdio.h>

int main()

{

int x, y, z;

printf("Enter first number\n");

scanf("%d", &x);

printf("Enter second number\n");

scanf("%d", &y);

printf("Enter third number\n");

scanf("%d", &z);

if(x>y&&x>z)

{

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

}

else if(y>z&&y>x)

{

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

}

else if(z>x&&z>y)

{

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

}

else

printf("All numbers are equal\n");

}

19) Accept a month in digit from the user. Display the month in words. If number is not

between 1 and 12 display message “Invalid Month”. (Use ‘switch’)

#include<stdio.h>

int main()

{

int i;

printf("Enter month in number\n");

scanf("%d", &i);

switch(i)

{

case 1:printf("January\n");

break;

case 2:printf("February\n");

break;

case 3:printf("March\n");

break;

case 4:printf("April\n");

break;

case 5:printf("may\n");

break;

case 6:printf("June\n");

break;

case 7:printf("July\n");

break;

case 8:printf("August\n");

break;

case 9:printf("September\n");

break;

case 10:printf("October\n");

break;

case 11:printf("November\n");

break;

case 12:printf("December\n");

break;

default: printf("Invalid month\n");

}

}

20) Write a C program to find the given number is Perfect number or not?

Note : Perfect number means sum of it's divisers exept that num is equalent to the same

number.

Ex : i/p num = 6.

6 diviesers are = 1,2,3, & 6.

sum = 1+2+3

sum = 6. So here 6 is perfect number.

#include<stdio.h>

int main()

{

int n, i, sum=0;

printf("Enter number\n");

scanf("%d", &n);

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

{

if(n%i==0)

{

sum=sum+i;

}

}

if(n==sum)

{

printf("Entered number is perfect number\n");

}

else

{

printf("Entered number is not perfect number\n");

}

}

-------------------------------------------------------- END --------------------------------------------------------

Dear Students, if any mistakes found, Kindly inform to me.

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