## ES202

## Assignment-III

## C Programming Exercises

1. [Write a C program to find power of a number using for loop](https://codeforwin.org/2015/07/c-program-to-find-power-of-number-using-for-loop.html).

Source Code:

#include <stdio.h>

void main()

{

int n,pow,answer=1;

printf("Enter number: ");

scanf("%d",&n);

printf("Enter power: ");

scanf("%d",&pow);

for(int i=1;i<=pow;i++)

answer\*=n;

printf("Answer: %d",answer);

}

Output:

Text

Description automatically generated with medium confidence

1. [Write a C program to find all factors of a number](https://codeforwin.org/2015/06/c-program-to-print-factors-of-any-number.html).

Source Code:

#include <stdio.h>

void main()

{

int n;

printf("Enter number:\n ");

scanf("%d",&n);

printf("FACTORS: \n");

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

if(n%i==0)

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

}

Output:

Text

Description automatically generated

1. [Write a C program to find HCF (GCD) of two numbers](https://codeforwin.org/2015/06/c-program-to-find-hcf-of-two-numbers.html).

Source Code:

#include <stdio.h>

int main()

{

int n1, n2;

printf("Enter two integers: ");

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

n1 = ( n1 > 0) ? n1 : -n1;

n2 = ( n2 > 0) ? n2 : -n2;

while(n1!=n2)

{

if(n1 > n2)

n1 -= n2;

else

n2 -= n1;

}

printf("GCD = %d",n1);

return 0;

}

Output:

Graphical user interface, text, application

Description automatically generated

1. [Write a C program to find LCM of two numbers](https://codeforwin.org/2015/06/c-program-to-find-lcm-of-two-numbers.html).

Source Code:

#include <stdio.h>

int main() {

int n1, n2, gcd;

printf("Enter two positive integers:\n ");

scanf("%d", &n1);

scanf("%d",&n2);

for (int i = 1; i <= n1 && i <= n2; ++i)

{

if (n1 % i == 0 && n2 % i == 0)

gcd = i;

}

printf("The LCM of two numbers %d and %d is %d. \n", n1, n2, ((n1 \* n2) / gcd));

return 0;

}

Output:

Text, application

Description automatically generated

1. [Write a C program to find all prime factors of a number](https://codeforwin.org/2015/06/c-program-to-find-all-prime-factors-of-any-number.html).

Source Code:

#include <stdio.h>

int main()

{

int num, isPrime;

printf("Enter any number to print Prime factors: ");

scanf("%d", &num);

printf("All Prime Factors of %d are: \n", num);

for(int i=2; i<=num; i++)

{

if(num%i==0)

{

isPrime = 1;

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

{

if(i%j==0)

{

isPrime = 0;

break;

}

}

if(isPrime==1)

{

printf("%d ", i);

}

}

}

return 0;

}

Output:

Graphical user interface, text

Description automatically generated

1. [Write a C program to check whether a number is Strong number or not](https://codeforwin.org/2015/06/c-program-to-check-strong-number.html).

Source Code:

#include <stdio.h>

int fact(int a)

{

int ans=1;

for(int i=a;i>=1;--i)

ans\*=i;

return ans;

}

int main()

{

int n,s=0;

printf("Enter number: \n");

scanf("%d",&n);

int t=n;

while(t!=0)

{

int c=t%10;

s+=fact(c);

t/=10;

}

if(n==s)

printf("%d is a Strong Number. \n",n);

else

printf("%d is not a Strong Number. \n",n);

}

Output:Graphical user interface

Description automatically generated

1. [Write a C program to print all Strong numbers between 1 to n](https://codeforwin.org/2015/06/c-program-to-print-all-strong-numbers.html).

Source Code:

#include <stdio.h>

int fact(int a)

{

int ans=1;

for(int i=a;i>=1;--i)

ans\*=i;

return ans;

}

void Strong(int t)

{

int nn=t,s=0;

while(t!=0)

{

int c=t%10;

s+=fact(c);

t/=10;

}

if(nn==s)

printf("%d ",nn);

}

int main()

{

int n;

printf("Enter limit: ");

scanf("%d",&n);

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

Strong(i);

}

Output:

Graphical user interface, text

Description automatically generated

1. [Write a C program to convert Hexadecimal to Decimal number system](https://codeforwin.org/2015/09/c-program-to-convert-hexadecimal-to-decimal-number-system.html).

Source Code:

#include<stdio.h>

#include<math.h>

int main()

{

int dn=0;

int c=0,l=0,i=0;

char hdn[20];

printf("Enter a Hexadecimal Number:");

scanf("%s",hdn);

while(hdn[i]!='\0')

{

l++;

i++;

}

l--;

i=0;

while(l>=0)

{

c=hdn[l];

if(c>=48&&c<=57)

c=c-48;

else if(c>=97&&c<=102)

c=c-97+10;

else if(c>=65&&c<=70)

dn=c-65+10;

dn=dn+(c\*pow(16,i));

l--;

i++;

}

printf("\nDecimal Equivalent:\n %d",dn);

return 0;

}

Output:Graphical user interface, text

Description automatically generated

1. [Write a C program to input week number and print week day](https://codeforwin.org/2015/05/c-program-to-print-week-name.html).

Source Code :

#include <stdio.h>

int main()

{

char w[8][10]={"MONDAY","TUESDAY","WEDNESDAY","THURSDAY","FRIDAY",

"SATURDAY","SUNDAY"}; int n;

printf("Enter day number: ");

scanf("%d",&n);

printf("%s",w[n-1]);

}

Output:

Text

Description automatically generated

1. [Write a C program to input marks of five subjects Physics, Chemistry, Biology, Mathematics and Computer. Calculate percentage and grade according to following:](https://codeforwin.org/2015/05/c-program-to-enter-student-marks-and-calculate-percentage-and-grade.html)

Percentage >= 90% : Grade A  
Percentage >= 80% : Grade B  
Percentage >= 70% : Grade C  
Percentage >= 60% : Grade D  
Percentage >= 40% : Grade E  
Percentage < 40% : Grade F

Source Code:

#include <stdio.h>

int main()

{

float m1,m2,m3,m4,m5,p;

printf("Enter marks in Physics out of 100: ");

scanf("%f",&m1);

printf("Enter marks in Chemistry out of 100: ");

scanf("%f",&m2);

printf("Enter marks in Biology out of 100: ");

scanf("%f",&m3);

printf("Enter marks in Mathematics out of 100: ");

scanf("%f",&m4);

printf("Enter marks in Computer out of 100: ");

scanf("%f",&m5);

p=(m1+m2+m3+m4+m5)/500.0\*100.0;

if(p>=90)

printf("Percentage: %.2f\nGrade: A",p);

else if(p>=90)

printf("Percentage: %.2f\nGrade: B",p);

else if(p>=80)

printf("Percentage: %.2f\nGrade: C",p);

else if(p>=70)

printf("Percentage: %.2f\nGrade: D",p);

else if(p>=60)

printf("Percentage: %.2f\nGrade: E",p);

else if(p>=40)

printf("Percentage: %.2f\nGrade: A",p);

}

Output:Text

Description automatically generated