

Labsheet-6 (Function)

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1.

```
#include <stdio.h>
```

```
#include <stdlib.h>
```

```
int armstrong(int i);
```

```
int main()
```

```
{
```

```
    int i,sum=0;
```

```
    printf("The Armstrong numbers between 1 and 500 are: \n");
```

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

```
    {
```

```
        sum = armstrong(i);
```

```
        if (i==sum)
```

```
        {
```

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

```
        }
```

```
    }
```

```
    return 0;
```

```
}
```

```
int armstrong(int i)
```

```
{
```

```
    int rem,sum=0;
```

```
    while(i)
```

```
    {
```

```
        rem = i%10;
```

```
        i /= 10;
```

```
        sum +=(rem*rem*rem);
```

```
    }
```

```
    return (sum);
```

```
}
```

2.

```
#include <stdio.h>
```

```
#include <stdlib.h>
```

```
int gcd(int a, int b);
```

```
int main()
```

```
{
```

```

int x,y, GCD;
printf("Please enter two number: ");
scanf("%d%d",&x,&y);
GCD = gcd(x,y);
printf("Greatest common divisor (GCD): %d",GCD);
return 0;
}

```

```

int gcd(int a, int b)
{
    if (a==0)
    {
        return (b);
    }
    if (b==0)
    {
        return (a);
    }
}

```

```

    if (a>b)
    {
        return gcd(a%b,b);
    }

    else
    {
        return gcd(a,b%a);
    }
}

```

3.

```

#include <stdio.h>
#include <stdlib.h>

```

```

int lcm(int x, int y);

```

```

int main()
{
    int x,y,LCM;
    printf("Please enter two value: ");
    scanf("%d%d",&x,&y);
}

```

```

if (x<y)
{
    LCM = lcm(x,y);
}
else
{
    LCM=lcm(y,x);
}
printf("Lowest common multiple (LCM): %d",LCM);
return 0;
}

```

```

int lcm(int x, int y)
{
    static int c=0;
    c += x;
    if ((c%x==0) && (c%y==0))
    {
        return (c);
    }
    else
    {
        return lcm(x,y);
    }
}

```

4.

```

#include <stdio.h>
#include <stdlib.h>

```

```

int fibonacci(int);

```

```

int main()
{
    int n,i,Fn;

    printf("Please enter fibonacci series number (value of n): ");
    scanf("%d", &n);
    printf("%dth number of fibonacci series is: ",n);
    for(i = 1; i <= n; i++)
    {
        Fn = fibonacci(i);
        printf("%d ", Fn);
    }
}

```

```

    return 0;
}

int fibonacci(int i)
{
    if(i == 1)
    {
        return(0);
    }

    else if(i == 2)
    {
        return(1);
    }

    else
    {
        return( fibonacci(i-1) + fibonacci(i-2) );
    }
}

```

5.

```

#include <stdio.h>
#include <stdlib.h>

```

```

int sumd(int n);

```

```

int main()
{
    int n,Sumd;
    printf("Please enter a positive number: ");
    scanf("%d",&n);

    Sumd = sumd(n);
    printf("The sum of digits for %d number: %d",n,Sumd);
    return 0;
}

```

```

int sumd(int n)
{
    int a,sum=0;

```

```
if (n==0)
{
    return (0);
}
else if (n>0)
{
    a = n%10;
    n /=10;
    sum = a+ sumd(n);
}
return (sum);
}
```