FUNCTIONS

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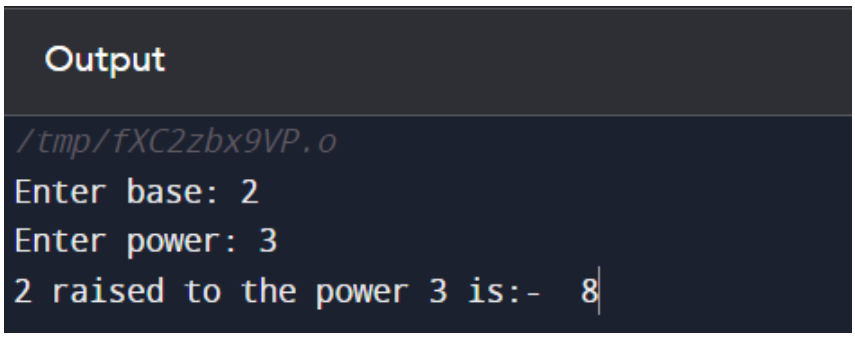
(1) AIM:-

To write a program in C to calculate the power of a number using a user-defined function.

CODE:-

```c
#include <math.h>
#include <stdio.h>
int power(int b, int p)
{
    int pwr= pow(b, p);
    return pwr;
}
int main()
{
    int b, p;
    printf("Enter base: ");
    scanf("%d", &b);
    printf("Enter power: ");
    scanf("%d", &p);
    int pw= power(b, p);
    printf("%d raised to the power %d is:-  %d",b,p,pw);
    return 0;
}
```

OUTPUT SCREEN:-



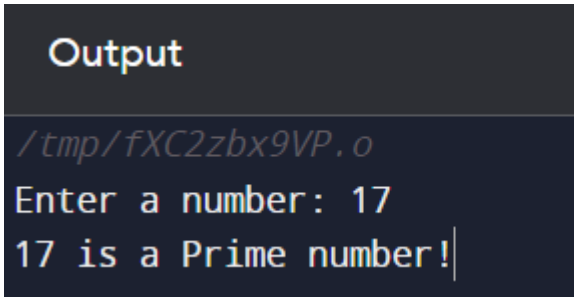
(2) AIM:-

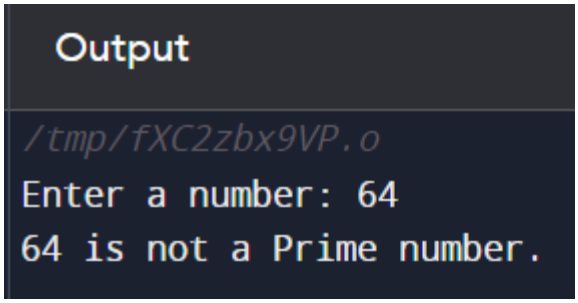
To develop a program to check if a number given by the user is prime or not using a function.

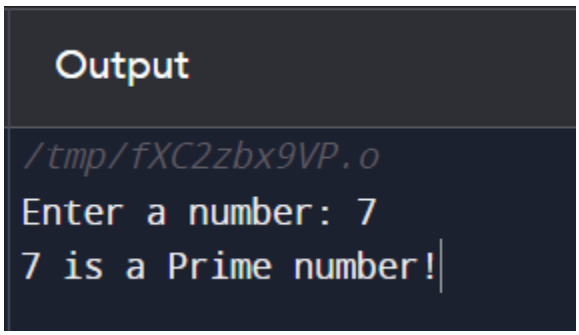
CODE:-

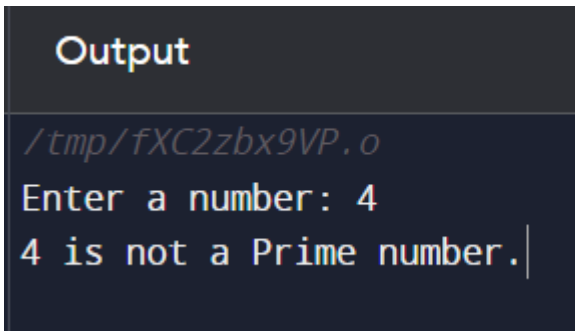
```c
#include <stdio.h>
int isPrime(int n)
{
    int c=0;
    for(int i=1; i<=n; i++)
    {
        if(n%i==0)
            c++;
    }
    if(c==2)
        return 1;
    else
        return 0;
}
int main()
{
    int n;
    printf("Enter a number: ");
    scanf("%d", &n);
    if(isPrime(n))
        printf("%d is a Prime number!", n);
    else
        printf("%d is not a Prime number.", n);
    return 0;
}
```

OUTPUT SCREEN:-









P.T.O.

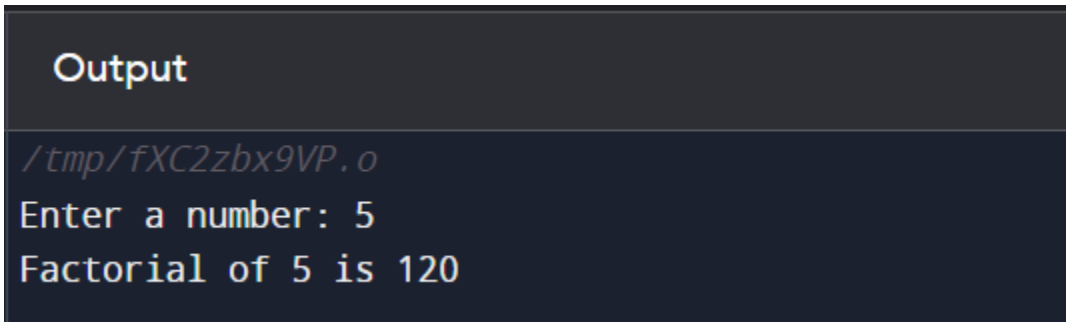
(3) AIM:-

To create a function to calculate the factorial of a number.

CODE:-

```c
#include <stdio.h>
int fact(int n)
{
    int p=1;
    for(int i=n; i>=1; i--)
    {
        p= p*i;
    }
    return p;
}
int main()
{
    int n, fac;
    printf("Enter a number: ");
    scanf("%d", &n);
    printf("Factorial of %d is %d", n, fact(n));
    return 0;
}
```

OUTPUT SCREEN:-



(4) AIM:-

To write a function in C to find the maximum of three numbers.

CODE:-

```c
#include <stdio.h>
int findMax(int a, int b, int c)
{
    if(a>b && a>c)
        return a;
    else if(b>a && b>c)
        return b;
    else
        return c;
}
int main()
{
    int a, b, c, max;
    printf("Enter 1st number: ");
    scanf("%d", &a);
    printf("Enter 2nd number: ");
    scanf("%d", &b);
    printf("Enter 3rd number: ");
    scanf("%d", &c);
    max= findMax(a, b, c);
    printf("The maximum of the three numbers is:-  %d", max);
    return 0;
}
```

OUTPUT SCREEN:-

```
Enter 1st number: 128
Enter 2nd number: 256
Enter 3rd number: 64
The maximum of the three numbers is:-  256
```

(5) AIM:-

To implement recursive functions for finding fibonacci series, factorial of a number, and to print 1 to n.

CODE 1:- (Fibonacci Series)

```c
// Implementing fibonacci series in C using recursive function
#include <stdio.h>
int fib(int n)
{
    if(n==0)
        return 0;
    else if(n==1)
        return 1;
    else
        return fib(n-1) + fib(n-2);
}
int main()
{
    int n;
    printf("Enter number of terms: ");
    scanf("%d", &n);
    for(int i=0; i<n; i++)
    {
        printf("%d\t", fib(i));
    }
    return 0;
}
```

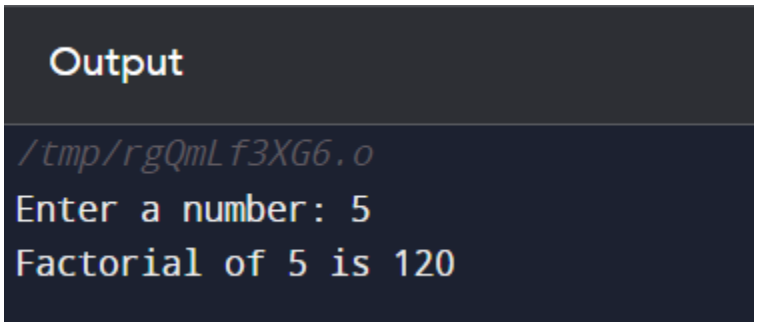
OUTPUT SCREEN 1:-

```
Output
/tmp/rgQmLf3XG6.o
Enter number of terms: 10
0   1   1   2   3   5   8   13  21  34
```

CODE 2:- (Factorial of a number)

```c
// Implementing a program to find the factorial of a number in C using
     recursive function
#include <stdio.h>
int fact(int n)
{
    if(n<=1)
        return 1;
    else
        return n*fact(n-1);
}
int main()
{
    int n;
    printf("Enter a number: ");
    scanf("%d", &n);
    printf("Factorial of %d is %d", n, fact(n));
    return 0;
}
```

OUTPUT SCREEN 2:-



CODE 3:- (Printing 1 to N using recursion)

```c
// Implementing a program in C to print 1 to N using a recursive function
#include <stdio.h>
int rec(int i, int n)
{
    if(i<=n)  // adding a termination condition
    {
        printf("%d\n", i);
        i++;
        rec(i, n);
    }
}
int main()
{
    int n, i=1;
    printf("Enter the value of n: ");
    scanf("%d", &n);
    rec(i, n);
    return 0;
}
```

OUTPUT SCREEN 3:-