

//Name- Priyanshu Mallick, Roll No- 13

//Q1. Write a program that will print your name 10 times

```
#include<stdio.h>

int main()
{
    int i=1;
    while(i<=10)
    {
        printf("Priyanshu Mallick\n");
        i++;
    }
    return 0;
}
```

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/**

Q2. Write a program that will print the numbers from 1 to n, where the value of n will be inputted by the user.

**/

```
#include<stdio.h>

int main()
{
    int num, i;
    printf("Enter the value of n\n");
    scanf("%d",&num);
    for(i=1;i<=num;i++)
    {
        printf("%d, ",i);
    }
}
```

```
    return 0;
}
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/**
```

Q3. Write a program that will print the numbers between m and n, where the value of m and n will be inputted by the user.

```
*/
#include <stdio.h>
int main()
{
    int m,n,i;
    printf("Enter the value of m and n:\n");
    scanf("%d%d",&m,&n);
    for (i=m;i<=n;i++)
    {
        printf("%d, ",i);
    }
    return 0;
}
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/**
```

Q4. Write a program that will print all odd numbers between m and n, where the value of m and n will be inputted by the user.

```
*/
#include <stdio.h>
int main()
{
    int m,n,i;
    printf("Enter the value of m and n:\n");
```

```

scanf("%d%d",&m,&n);
for (i=m;i<=n;i++)
{
    if (i%2==0)
        continue;
    printf("%d, ",i);
}
return 0;
}

```

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/**

Q5. Write a program to find the sum and average of numbers from 1 to n, where the value of n will be inputted by the user.

**/

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

```
int main()
```

```
{
```

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

```
    float avg;
```

```
    printf("Enter the value of n:\n");
```

```
    scanf("%d",&n);
```

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

```
    {
```

```
        sum = sum + i;
```

```
    }
```

```
    avg = sum/n;
```

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

```
    printf("%.2f\n",avg);
```

```
    return 0;
}
```

```
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```

```
/**
```

Q6. Write a program to find the factorial of a number, where the number will be inputted by the user.

```
**/
```

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

```
int main()
```

```
{
```

```
    int n,i,mul=1;
```

```
    printf("Enter the value of n:\n");
```

```
    scanf("%d",&n);
```

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

```
    {
```

```
        mul = mul * i;
```

```
    }
```

```
    printf("%d! = %d\n",n,mul);
```

```
    return 0;
```

```
}
```

```
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```

```
//Q7. Write a program that will read two integers and compute the GCD.
```

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

```
int main()
```

```
{
```

```
    int num1, num2, r1, r2, t;
```

```

printf("Enter any two numbers to find LCM:\n");
scanf("%d%d",&num1,&num2);

r1=num1;
r2=num2;
while(r2!=0)
{
    t = r1 % r2;
    r1 = r2;
    r2 = t;
}
printf("GCD of %d and %d = %d", num1, num2, r1);
return 0;
}

```

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//Q7. Write a program that will read two integers and compute the GCD.

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

```

int main()
{
    int num1, num2, r1, r2, t;
    printf("Enter any two numbers to find LCM:\n");
    scanf("%d%d",&num1,&num2);

    r1=num1;
    r2=num2;
    while(r2!=0)
    {
        t = r1 % r2;
        r1 = r2;
        r2 = t;
    }
}

```

```
printf("GCD of %d and %d = %d", num1, num2, r1);  
return 0;  
}  
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//Q8. Write a program that will read two integers and compute the LCM.
```

```
#include <stdio.h>  
  
int main()  
{  
    int i, num1, num2, max, lcm=1;  
    printf("Enter any two numbers to find LCM:\n");  
    scanf("%d%d", &num1, &num2);  
  
    max = (num1 > num2) ? num1 : num2;  
  
    i = max;  
  
    while(1)  
    {  
        if(i%num1==0 && i%num2==0)  
        {  
            lcm = i;  
            break;  
        }  
        i = max+1;  
    }  
  
    printf("LCM of %d and %d = %d", num1, num2, lcm);
```

```

    return 0;
}

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//Q9. Write a program to print the Fibonacci numbers up to n number of terms.

#include <stdio.h>

int main() {

    int t1 = 0, t2 = 1, nextTerm = 0, n;

    printf("Enter the term n upto which you want to print the series: ");

    scanf("%d", &n);

    while (nextTerm <= n) {

        printf("%d, ", nextTerm);

        t1 = t2;

        t2 = nextTerm;

        nextTerm = t1 + t2;

    }

    return 0;
}

```

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/**

Q10. Write a program that will read a number and compute sum of its digits.

Example: If input is 315, then output should be 9

**/

```

#include <stdio.h>

int main()

{

    int n, sum=0,s;

    printf("Enter a number\n");

    scanf("%d",&n);

    while(n!=0)

```

```

{
    s = n%10;

    sum = sum +s;

    n = n / 10;
}

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

return 0;
}

```

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/**

Q11. Write a program that will reverse a number inputted by the user.

Example: If number is 3456 then its reverse should be 6543

**/

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

```
int main()
```

```

{
    int n, rev=0,s;

    printf("Enter a number\n");

    scanf("%d",&n);

    while(n!=0)
    {
        s = n%10;

        rev = rev*10+s;

        n = n / 10;
    }

    printf("The Sum of the digits is: %d\n",rev);

    return 0;
}

```



```
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```

```
/**
```

Q12. Write a program to read a number, count the number of digits and display.

Example: If input is 3405, then output should be 4

```
**/
```

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

```
int main()
```

```
{
```

```
    int n, c=0;
```

```
    printf("Enter a number\n");
```

```
    scanf("%d",&n);
```

```
    while(n!=0)
```

```
    {
```

```
        c=c+1;
```

```
        n = n / 10;
```

```
    }
```

```
    printf("The Sum of the digits is: %d\n",c);
```

```
    return 0;
```

```
}
```

```
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```

```
//Q.13 Write a program that will check an inputted number is prime or composite.
```

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

```
int main()
```

```
{
```

```
    int n, a=1,c=0;
```

```
    printf("Enter a number\n");
```

```
    scanf("%d",&n);
```

```
    while(a<=n)
```

```

{
    if(n%a==0)
    {
        c++;
        a++;
    }
    else
    {
        a++;
    }
}
if(c==2)
{
    printf("Prime Number\n");
}
else
{
    printf("Composite Number\n");
}

return 0;
}
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/**

```

Q14. Write a program that will check a number is palindrome or not.

Example: 12321 is a palindrome, but 12345 is not

```

**/

#include <stdio.h>

int main()

```

```

{
    int n, rev=0,s;

    printf("Enter a number\n");
    scanf("%d",&n);

    int t = n;
    while(n!=0)
    {
        s = n%10;
        rev = rev*10+s;
        n = n / 10;
    }
    if (t==s)
    {
        printf(" This is a Palendrum Number\n");
    }
    else
    {
        printf("Not a Palendrum Number\n");
    }

    return 0;
}

```

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/**

Q15. Write a program that will print sum of the following series

Sum = $1 + \frac{1}{2!} + \frac{1}{3!} + \dots + \frac{1}{n!}$

**/

#include <stdio.h>

int main()

```

{
    float n,i,mul=1,sum=0;

    printf("Enter the value of n:\n");
    scanf("%f",&n);
    for (i=1;i<=n;i++)
    {
        mul = mul * 1/i;
        sum = sum+mul;
    }
    printf("%.1f",sum);
    return 0;
}

```

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/**

Q16. Write a program that will read x and compute sin(x)

(Hints: Use Taylor's series expansion $\sin(x) = x - \frac{x^3}{3!} + \frac{x^5}{5!} - \frac{x^7}{7!} + \dots$)

**/

```

#include<stdio.h>

```

```

#include<math.h>

```

```

int main()

```

```

{
    float x,rad,n,t=1,sum=0;
    int i,j,f,c;
    printf("\nEnter the degree value : ");
    scanf("%f",&x);
    printf("\n");
    printf("\nEnter the number of term of expansion : ");

```

```
scanf("%f",&n);
rad=(x*(3.141))/180;
for(i=1,j=2; i<=n; i+=2,j++)
{
    for(c=i,f=(c-1); f!=0; f--)
    {
        c=c*f;
    }
    t=pow(rad,i)/c;
    sum=sum+pow(-1,j)*t;
}
printf("\nSin(%.1f) = %f",x,sum);
return 0;
}
```