```
Que 1: Write a C program to print all natural numbers from 1 to n. - using whi
Owner: Rushikesh Sanjay Pokharkar
Batch: PPA9
                                              ****** Solution ******
#include <stdio.h> // Including Necessary Header Files
void main()
   int num;
   int i = 1; //Initialization of the variables
   printf("Enter the number: "); // Display Message
    scanf("%d", &num);
                               //Taking User Input
   //While loop starts
   while (i <= num)
       printf("%d\n", i);
       i++;
    } // While loop end
```

```
/*
Que 2: Write a C program to print all natural numbers in reverse (from n to 1)
. -Using while loop
Owner: Rushikesh Sanjay Pokharkar
Batch: PPA9

*/
//
//
//
******** Solution *******

#include <stdio.h> // Including Necessary Header Files

void main()
{
    int num; //Initialization of the variables
```

```
printf("Enter the number: "); // Display Message
scanf("%d", &num); //Taking User Input

//While loop starts
while (num >= 1)
{
    printf("%d\n", num);
    num--;
} // While loop end
}
```

```
Que 3: Write a C program to print all alphabets from a to z. - using while loo
p
Owner: Rushikesh Sanjay Pokharkar
Batch: PPA9

*/
// ********* Solution ********

#include <stdio.h> // Including Necessary Header Files

void main()
{
    int num = 97; //Initialization of the variables
    //While loop starts
    while (num <= 122)
    {
        printf("%c\n", num);
        num++;
    } // While loop end
}</pre>
```

```
Que 4: Write a C program to print all even numbers between 1 to 100. - usingWh ile loop

Owner: Rushikesh Sanjay Pokharkar

Batch: PPA9

*/

//

******** Solution ********
```

```
Que 6: Write a C program to find sum of all natural numbers between 1 to n.
Owner: Rushikesh Sanjay Pokharkar
Batch: PPA9
                                               ****** Solution ******
#include <stdio.h> // Including Necessary Header Files
void main()
    int num, sum = 0; //Initialization of the variables
   printf("Enter the number: "); // Display Message
    scanf("%d", &num);
                                 //Taking User Input
   //While loop starts
   while (num >= 1)
       sum = sum + num;
       num--;
    } // While loop end
    printf("The sum of all natural numbers upto given number is: %d", sum);
```

```
/*
Que 7: Write a C program to find sum of all even numbers between 1 to n.
Owner: Rushikesh Sanjay Pokharkar
Batch: PPA9

*/
// ******** Solution ********

#include <stdio.h> // Including Necessary Header Files

void main()
{
    int num, sum = 0; //Initialization of the variables
    printf("Enter the number: "); // Display Message
```

```
Que 8: Write a C program to find sum of all odd numbers between 1 to n.
Owner: Rushikesh Sanjay Pokharkar
Batch: PPA9
                                               ****** Solution ******
#include <stdio.h> // Including Necessary Header Files
void main()
    int num, sum = 0; //Initialization of the variables
    printf("Enter the number: "); // Display Message
   scanf("%d", &num);
                                //Taking User Input
   //While loop starts
   while (num >= 1)
       if (num % 2 != 0)
       { //Condition to check odd numbers
           sum = sum + num;
       num--;
   } // While loop end
   printf("The sum of all odd numbers upto given number is: %d", sum);
```

```
Que 9: Write a C program to print multiplication table of any number.
Owner: Rushikesh Sanjay Pokharkar
Batch: PPA9

*/

// ********* Solution ********

#include <stdio.h> // Including Necessary Header Files

void main()
{
    int num, i = 1; //Initialization of the variables

    printf("Enter the number: "); // Display Message
    scanf("%d", &num); //Taking User Input

    //While loop starts
    while (i <= 10)
    {
        printf("%d x %d = %d\n", num, i, i * num);
        i++;
    } // While loop end
}
</pre>
```

```
//While loop starts
while (num > 0)
{
    num = num / 10;
    count++;
} // While loop end
printf("The number of digits in a given number are: %d", count);
}
```

```
Que 11: Write a C program to find first and last digit of a number.
Owner: Rushikesh Sanjay Pokharkar
Batch: PPA9
                                                ****** Solution ******
#include <stdio.h> // Including Necessary Header Files
void main()
    int num, firstDigit, LastDigit; // Initialization of necessary variables
    printf("Enter a number: ");
    scanf("%d", &num); // Thaking input from user
    LastDigit = num % 10; // Formula to get last digit of the number
   while (num > 0)
        firstDigit = num % 10; // Formula to get first digit of the number
        num = num / 10;
    printf("The first digit is %d and The last digit is %d", firstDigit, LastD
igit);
```

```
/*
Que 12: Write a C program to find sum of first and last digit of a number.
Owner: Rushikesh Sanjay Pokharkar
Batch: PPA9
```

```
*/
// ******** Solution ********
#include <stdio.h> // Including Necessary Header Files

void main()
{
    int num, firstDigit, LastDigit; // Initialization of necessary variables
    printf("Enter a number: ");
    scanf("%d", &num); // Thaking input from user

    LastDigit = num % 10; // Formula to get last digit of the number
    while (num > 0)
    {
        firstDigit = num % 10; // Formula to get first digit of the number
        num = num / 10;
    }

    printf("The Sum of first and last digit of a number is: %d", firstDigit +
LastDigit);
}
```

```
/*
Que 14: Write a C program to calculate sum of digits of a number.
Owner: Rushikesh Sanjay Pokharkar
Batch: PPA9

*/
// ******** Solution ********

#include <stdio.h> // Including Necessary Header Files

void main()
{
    int num, sumOfDigits = 0; // Initialization of necessary variables
    printf("Enter a number: ");
    scanf("%d", &num); // Thaking input from user
    while (num > 0)
```

```
{
    sumOfDigits = sumOfDigits + (num % 10); // Formula to get the sum of d
igits of a number
    num = num / 10;
}

printf("The Sum of digits of a number is: %d", sumOfDigits);
}
```

```
Que 15: Write a C program to calculate product of digits of a number.
Owner: Rushikesh Sanjay Pokharkar
Batch: PPA9
                                                ****** Solution ******
#include <stdio.h> // Including Necessary Header Files
void main()
    int num, productOfDigits = 1; // Initialization of necessary variables
    printf("Enter a number: ");
    scanf("%d", &num); // Thaking input from user
   while (num > 0)
       productOfDigits = productOfDigits * (num % 10); // Formula to get the
product of digits of a number
        num = num / 10;
    printf("The Product of digits of a number is: %d", productOfDigits);
```

```
/*
Que 16: Write a C program to enter a number and print its reverse.
Owner: Rushikesh Sanjay Pokharkar
Batch: PPA9
```

```
*/
// ******** Solution ********

#include <stdio.h> // Including Necessary Header Files

void main()
{
    int num, revNum = 0, temp; // Initialization of necessary variables
    printf("Enter a number: ");
    scanf("%d", &num); // Thaking input from user

    while (num > 0)
    {
        temp = num % 10;
        revNum = (revNum * 10) + temp; // To get the reverse of the number
        num = num / 10;
    }
    printf("The Reverse Number of the given number is: %d", revNum);
}
```

```
/*
Que 17: Write a C program to check whether a number is palindrome or not.
Owner: Rushikesh Sanjay Pokharkar
Batch: PPA9

*/
// ******** Solution ********

#include <stdio.h> // Including Necessary Header Files

void main()
{
    int num, revNum = 0, temp, number; // Initialization of necessary variable
s
    printf("Enter a number: ");
    scanf("%d", &num); // Thaking input from user
    number = num;
    while (num > 0)
```

```
temp = num % 10;
    revNum = (revNum * 10) + temp; // To get the reverse of the number
    num = num / 10;
}

if (number == revNum) // Condition to check numer is palindrome or not
    printf("Yes! The given number is a palindrome number.");
else
    printf("No! The given number is not an palindrome number.");
}
```

```
Que 18: Write a C program to find frequency of each digit in a given integer.
Owner: Rushikesh Sanjay Pokharkar
Batch: PPA9
                                               ****** Solution *****
#include <stdio.h> // Including Necessary Header Files
void main()
    int num, temp1, temp, rem, rem2; // Initialization of necessary variables
    printf("Enter a number: ");
    scanf("%d", &num); // Thaking input from user
    temp = num;
   while (num > 0) // While loop to get the last digit.
        rem = num % 10;
        temp1 = temp;
        int count = 0;
        while (temp1 > 0) // While loop to get the frequency of the last dig
            rem2 = temp1 % 10;
            if (rem == rem2)
```

```
count++;
}
temp1 = temp1 / 10;
}

printf("Frequency of %d is: %d\n", rem, count);
num = num / 10;
}
```

```
Que 19: Write a C program to enter a number and print it in words.
Owner: Rushikesh Sanjay Pokharkar
Batch: PPA9
                                                ******* Solution ******
#include <stdio.h> // Including Necessary Header Files
void main()
    int num, revNum = 0, temp; // Initialization of necessary variables
    printf("Enter a number: ");
    scanf("%d", &num); // Thaking input from user
   while (num > 0)
        temp = num % 10;
        revNum = (revNum * 10) + temp; // To get the reverse of the number
        num = num / 10;
   while (revNum > 0)
        temp = revNum % 10;
        if (temp == 1)
            printf("One ");
        else if (temp == 2)
            printf("Two ");
        else if (temp == 3)
            printf("Three ");
```

```
/*
Que 21: Write a C program to find power of a number using for loop.
Owner: Rushikesh Sanjay Pokharkar
Batch: PPA9
```

```
*/
// ******** Solution ********

#include <stdio.h> // Including Necessary Header Files

void main()
{
    int num, power, result = 1; // Initialize the necessary variables
    printf("Enter a number: ");
    scanf("%d", &num); // Take base number Input from user
    printf("Enter the power: ");
    scanf("%d", &power); // Take exponent number Input from user

for (int i = 1; i <= power; i++)
    {
        result = result * num; //Get the power of the number
    }

    printf("The %d th power of the number %d is(%d ^ %d): %d", power, num, num
, power, result);
}</pre>
```

```
Que 22: Write a C program to find all factors of a number.
Owner: Rushikesh Sanjay Pokharkar
Batch: PPA9

*/
// ******** Solution ********

#include <stdio.h> // Including Necessary Header Files

void main()
{
    int num; // Initialize the necessary variables
    printf("Enter a number: ");
    scanf("%d", &num); // Take a number Input from user
    printf("All factors of a number %d are: ", num);
    for (int i = 1; i <= num; i++)</pre>
```

```
{
    if (num % i == 0)
    { // Condition to know the number is factor of given number or not
        printf("%d ", i);
    }
}
```

```
Que 23: Write a C program to calculate factorial of a number.
Owner: Rushikesh Sanjay Pokharkar
Batch: PPA9
                        ****** Solution ******
#include <stdio.h> // Including Necessary Header Files
void main()
    int num, fact = 1; // Initialize the necessary variables
label:
    printf("\nEnter a number: ");
    scanf("%d", &num); // Take a number Input from user
   if (num < 0)
    { // check number is negative or not
        printf("Can't find the factorial of negative numbers.");
       goto label; // If number is negative then call the label for reexecuti
    else
        for (int i = 1; i <= num; i++)
           fact = fact * i; // Calculating factorial of a number..
    printf("The factorial of the number %d is: %d", num, fact);
```

```
/*
Que 24: Write a C program to find HCF (GCD) of two numbers.
```

```
Owner: Rushikesh Sanjay Pokharkar
Batch: PPA9
                       #include <stdio.h> // Including Necessary Header Files
void main()
   int num1, num2, min, gcd; // Initialization of necessary variables
   printf("Enter First Number: ");
    scanf("%d", &num1); // Get input first number
   printf("Enter Second Number: ");
    scanf("%d", &num2); // Get input second number
   min = (num1 < num2) ? num1 : num2; // Check minimum of two numbers</pre>
   for (int i = 1; i <= min; i++) // For loop to get gcd</pre>
       if (num1 % i == 0 && num2 % i == 0)
           gcd = i; // store the gcd
   printf("The GCD of %d and %d is: %d", num1, num2, gcd);
```

```
Que 25: Write a C program to find LCM of two numbers.
Owner: Rushikesh Sanjay Pokharkar
Batch: PPA9

*/
// ********* Solution ********

#include <stdio.h> // Including Necessary Header Files

void main()
{
    int num1, num2, max; // Initialization of necessary variables
```

```
printf("Enter First Number: ");
scanf("%d", &num1); // Get input first number

printf("Enter Second Number: ");
scanf("%d", &num2); // Get input second number

if (num1 > num2) // Check maximum of two numbers
{
    max = num1;
}
else
{
    max = num2;
}
while (1) // Initialise infinite while loop
{
    if (max % num1 == 0 && max % num2 == 0) // Check for the LCM of given two numbers
    {
        printf("The LCM of %d and %d is: %d", num1, num2, max);
        break;
    }
    max++;
}
```

```
for (int i = 1; i <= num; i++)
{
    if (count > 2)
    {
        break; // Check if count of numbers divided is greater then 2 then
it is not an prime number hence break the loop.
    }
    if (num % i == 0)
    {
        count++; // Check factors of a number and increase the count
    }
}

if (count <= 2)
{
    printf("The given number %d is a prime number.", num);
}
else
{
    printf("The given number %d is not an prime number.", num);
}
</pre>
```

```
int count = 0;
    for (int j = 1; j <= i; j++) // For loop to check number is prime or n

ot.

{
        if (count > 2)
        {
            break; // Check if count of numbers divided is greater then 2

then it is not an prime number hence break the loop.
        }
        if (i % j == 0)
        {
            count++; // Check factors of a number and increase the count
        }
    }
    if (count <= 2)
    {
        printf("%d ", i); // If number is prime then print the number.
    }
}</pre>
```

```
Que 28: Write a C program to find sum of all prime numbers between 1 to n.
Owner: Rushikesh Sanjay Pokharkar
Batch: PPA9

*/

// ******** Solution ********

#include <stdio.h> // Including Necessary Header Files

void main()
{
    int num, sum = 0; //Initialization of variables
    printf("Enter a number: ");
    scanf("%d", &num); // Taken a user input

    for (int i = 1; i <= num; i++) // For loop to print prime numbers from 1 to n
    {
        int count = 0;
        for (int j = 1; j <= i; j++) // For loop to check number is prime or n
ot.</pre>
```

```
{
    if (count > 2)
    {
        break; // Check if count of numbers divided is greater then 2
then it is not an prime number hence break the loop.
    }
    if (i % j == 0)
    {
        count++; // Check factors of a number and increase the count
    }
}
if (count <= 2)
{
    sum = sum + i; // calculate sum of prime numbers
}
printf("The sum of all prime numbers Between 1 to %d is: %d", num, sum);
}</pre>
```

```
for (int j = 1; j <= i; j++) // For loop to check factor number is
prime or not.
{
        if (count > 2)
        {
            break; // Check if count of numbers divided is greater the
n 2 then it is not an prime number hence break the loop.
        }
        if (i % j == 0)
        {
            count++; // Check factors of a number and increase the count
        }
        if (count <= 2)
        {
            printf("%d ", i); //If factor number is prime then print it...
        }
        }
    }
}</pre>
```

```
Que 30: Write a C program to check whether a number is Armstrong number or Not
.
Owner: Rushikesh Sanjay Pokharkar
Batch: PPA9

*/

//

********* Solution ********

#include <stdio.h> // Including Necessary Header Files

void main()
{
   int num, number, temp, result = 0; //Initialization of necessary variables

   printf("Enter a Number: ");
   scanf("%d", &num); //Taking user input number

   number = num; // num is stored for future puropse

   int temp1 = num, count = 0;
```

```
while (temp1 > 0)
    count++;
    temp1 = temp1 / 10;
while (num > 0) //While loop to check number is Armstrong number or not
    temp = num % 10;
    int rem = 1;
    for (int i = 0; i < count; i++)
        rem = rem * temp;
    result = result + rem;
    num = num / 10;
if (number == result) //One of the condition to check number is armstrong
    printf("The given number %d is an Armstrong number.", number);
else
    printf("The given number %d is not an Armstrong number.", number);
```

```
/*
Que 31: Write a C program to print all Armstrong numbers between 1 to n.
Owner: Rushikesh Sanjay Pokharkar
Batch: PPA9

*/
// ******** Solution ********

#include <stdio.h> // Including Necessary Header Files

void main()
{
   int num; //Initialization of necessary variables
   printf("Enter a Number: ");
   scanf("%d", &num); //Taking user input number
```

```
for (int i = 1; i <= num; i++)
        int num1 = i;
        int temp1 = num1, count = 0, result = 0, number, temp; //Initializatio
n of necessary variables
        number = num1;
d for future puropse
        while (temp1 > 0) // While loop for counting the number of digits in a
 given number.
            count++;
            temp1 = temp1 / 10;
        while (num1 > 0) //While loop to check number is Armstrong number or n
            temp = num1 % 10;
            int rem = 1;
            for (int j = 0; j < count; j++) // For loop to get the power of ea
ch digit for count number of times.
            {
                rem = rem * temp;
            result = result + rem;
            num1 = num1 / 10;
        if (number == result) //One of the condition to check number is armstr
ong or not
            printf("%d ", number);
        }
```

```
Que 32: Write a C program to check whether a number is Perfect number or Not.

Owner: Rushikesh Sanjay Pokharkar

Batch: PPA9

*/

//

******** Solution ********
```

```
#include <stdio.h> // Including Necessary Header Files
void main()
    int num, result = 0; //Initialization of necessary variables
    printf("Enter a Number: ");
    scanf("%d", &num); //Taking user input number
    for (int i = 1; i < num; i++) // For loop to ckeck number is perfect numbe</pre>
        if (num % i == 0) // Condition for perfect number.
            result = result + i;
    if (num == result) //If number is perfect is perfect then print the result
        printf("The given number %d is an Perfect Number.", num);
    else
        printf("The given number %d is not an Perfect Number.", num);
```

```
Que 33: Write a C program to print all Perfect numbers between 1 to n.
Owner: Rushikesh Sanjay Pokharkar
Batch: PPA9

*/

// ******** Solution ********

#include <stdio.h> // Including Necessary Header Files

void main()
{
   int num; //Initialization of necessary variables
   printf("Enter a Number: ");
   scanf("%d", &num); //Taking user input number
```

```
/*
Que 34: Write a C program to check whether a number is Strong number or not.
Owner: Rushikesh Sanjay Pokharkar
Batch: PPA9

*/
// ********* Solution *********

#include <stdio.h> // Including Necessary Header Files

void main()
{
    int num, number, rem, result = 0; //Initialization of necessary variables
    printf("Enter a Number: ");
    scanf("%d", &num); //Taking user input number

    number = num;
    while (num > 0) // While loop to get a perfect number.
    {
        rem = num % 10; // get a digit of a number
        int fact = 1;
```

```
Que 35: Write a C program to print all Strong numbers between 1 to n.
Owner: Rushikesh Sanjay Pokharkar
Batch: PPA9

*/

// ********* Solution ********

#include <stdio.h> // Including Necessary Header Files

void main()
{
   int num; //Initialization of necessary variables
   printf("Enter a Number: ");
   scanf("%d", &num); //Taking user input number

   printf("All Strong Numbers Between 1 to %d are: ", num);

   for (int a = 1; a <= num; a++) //For loop to iterate over n number of time

s
   int num1 = a;
   int number, rem, result = 0; //Initialization of necessary variables
   number = num1;
   while (num1 > 0) // While loop to get a perfect number.
```

```
{
    rem = num1 % 10; // get a digit of a number
    int fact = 1;
    for (int i = 1; i <= rem; i++) // For loop to calculate factorial

of a number.

{
        fact = fact * i;
        }
        result = result + fact; // sum of factorial of each digits in a number

        num1 = num1 / 10;
    }

    if (number == result) // get the result by checking the given number a

nd result number is same or not.
    {
        printf("%d ", number);
     }
    }
}</pre>
```

```
{
    result = num1 + num2;
    printf("%d ", result);
    num1 = num2;
    num2 = result;
}
```