**Name: Sneha Roy , Section : B , Roll : 42**

**Enrollment No.: 12024006015099**

**Week 1 Assignment**

1. Write a C program to find the sum and average of three numbers.

**Answer:**

#include<stdio.h>

int main(){

  int sum, num1, num2, num3;

  float avg;

  printf("Enter three numbers : ");

  scanf("%d %d %d", &num1, &num2, &num3);

  sum = num1 + num2 + num3;

  avg = sum / 3.0;

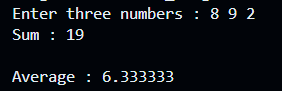
  printf("Sum : %d\n\n", sum);

  printf("Average : %f", avg);

  return 0;

}

**Output:**



2. Write a C program to find the sum of individual digits of a given positive integer.

**Answer:**

#include<stdio.h>

int main(){

  int n, digit, sum = 0;

  printf("Enter a number : ");

  scanf("%d", &n);

  while(n != 0){

    digit = n % 10;

    sum += digit;

    n = n / 10;

  }

  printf("Sum of the digit : %d", sum);

  return 0;

}

**Output:**



3. Write a C program to generate the first n terms of the Fibonacci sequence.

**Answer:**

#include<stdio.h>

int main(){

  int term;

  printf("Enter the term: ");

  scanf("%d", &term);

  int a = 0, b = 1, ans = 0;

  printf("%d , %d , ", a, b);

  for (int i = 2; i < term; i++){

    ans = a + b;

    a = b;

    b = ans;

    printf("%d , ", ans);

  }

  return 0;

}

**Output:**



4. Write a C program to generate prime numbers between 1 to n.

**Answer:**

#include<stdio.h>

int main(){

  int n;

  printf("Enter a number : ");

  scanf("%d", &n);

  for (int i = 2; i <= n; i++) {

    int count = 0;

    for(int j = 2; j < i; j++){

      if(i % j == 0) {

        count++;

        break;

      }

    }

    if(!count) printf("%d , ", i);

  }

  if(n == 1) printf("There is no prime number.");

  return 0;

}

**Output:**

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5. Write a C program to check whether a given number is an Armstrong number or not.

**Answer:**

#include <stdio.h>

int main() {

    int num, sum = 0, remainder, digitCount = 0, n;

    printf("Enter a number: ");

    scanf("%d", &num);

    n = num;

    while (n != 0) {

        n = n / 10;

        digitCount++;

    }

    n = num;

    while (n != 0) {

        remainder = n % 10;

        int power = 1;

        for (int i = 0; i < digitCount; i++) {

            power \*= remainder;

        }

        sum += power;

        n /= 10;

    }

    if (num == sum)

        printf("%d is an Armstrong Number.\n", num);

    else

        printf("%d is not an Armstrong Number.\n", num);

    return 0;

}

**Output:**



6. Write a C program to evaluate the algebraic expression (ax+b)/(ax-b).

**Answer:**

#include <stdio.h>

int main() {

    float a, b, x;

    printf("Enter the values of a, b and x : ");

    scanf("%f %f %f", &a, &b, &x);

  if((a\*x - b) == 0) printf("Erro. ");

  else printf("Result : %lf", ((a \* x + b) / (a \* x - b)));

    return 0;

}

**Output:**



7. Write a C program to check if the given number is a perfect number.

**Answer:**

#include<stdio.h>

int main(){

  int n, sum = 0;

  printf("Enter a number : ");

  scanf("%d", &n);

  for(int i = 1; i < n; i++){

    if(n % i == 0){

      sum += i;

    }

  }

  if(sum == n) printf("%d is a Prefect Number.", n);

  else printf("%d is not a Prefect Number.", n);

  return 0;

}

**Output:**



8. Write a C program to check if a given number is a strong number.

**Answer:**

#include<stdio.h>

int factorial (int n){

  int fact = 1;

  for(int i = 1; i <= n; i++){

    fact \*= i;

  }

  return fact;

}

int main(){

  int n, temp, sum = 0, digit;

  printf("Enter a number : ");

  scanf("%d", &n);

  temp = n;

  while(temp != 0){

    digit = temp % 10;

    sum += factorial(digit);

    temp /= 10;

  }

  if(sum == n) printf("%d is a Strong Number.", n);

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

  return 0;

}

**Output:**



9. Write a program to print your name without using any semicolons in the program.

**Answer:**

#include<stdio.h>

void main(){

  if(printf("Sneha Roy")){}

}

**Output:**



10. Write a program to convert temperatures in Celsius to Fahrenheit and vice-versa.

**Answer:**

#include <stdio.h>

int main(){

  int choice;

  float temp;

  printf("Press 1 to convert Celsius to Fahrenheit : \n");

  printf("Press 2 to convert Fahrenheit to Celsius : \n");

  printf("Enter your choice : ");

  scanf("%d", &choice);

  switch (choice) {

  case 1:

    printf("Enter temperature in Celsius : ");

    scanf("%f", &temp);

    printf("Temperature in Fahrenheit : %f", ((temp \* 9/5) + 32));

    break;

  case 2:

    printf("Enter temperature in Fahrenheit : ");

    scanf("%f", &temp);

    printf("Temperature in Celsius : %f", ((temp - 32) \* 5/9));

    break;

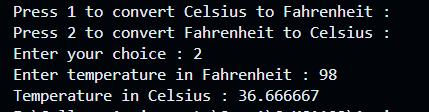
  default: printf("Invalid choice");

  }

  return 0;

}

**Output:**



11. Write a C program to check whether a number is a palindrome or not.

**Answet:**

#include<stdio.h>

int main(){

  int num, n, remainder, reverseNum;

  printf("Enter a number : ");

  scanf("%d", &num);

  n = num;

  while (n != 0){

    remainder = n % 10;

    reverseNum = reverseNum \*10 + remainder;

    n /= 10;

  }

  if(num == reverseNum) printf("%d is Palindrome.", num);

  else printf("%d is not Palindrome.", num);

  return 0;

}

**Output:**



12. Write a C program to find the maximum between two numbers.

**Answer:**

#include<stdio.h>

int main(){

  int a, b;

  printf("Enter two number : ");

  scanf("%d %d", &a , &b);

  if(a > b) printf("The maximum number is : %d ", a);

  else if(b > a) printf("The maximum number is : %d ", b);

  else printf("Both numbers are equal.");

  return 0;

}

**Output:**



13. Write a C program to find the maximum between three numbers.

**Answer:**

#include<stdio.h>

int main(){

  int a, b, c;

  printf("Enter three number : ");

  scanf("%d %d %d", &a , &b, &c);

  if(a >= b && a >= c) printf("The maximum number is : %d ", a);

  else if(b >= a && b >= c) printf("The maximum number is : %d ", b);

  else printf("The maximum number is : %d", c);

  return 0;

}

**Output:**



14. Write a C program to check whether a number is negative, positive, or zero.

**Answer:**

#include<stdio.h>

int main(){

  int n;

  printf("Enter a number : ");

  scanf("%d", &n);

  if(n > 0 ) printf("%d is positive number. ", n);

  else if(n < 0) printf("%d is negative number. ", n);

  else printf("%d is zero.", n);

  return 0;

}

**Output:**



15. Write a C program to check whether a number is divisible by 5 and 11 or not within the range of 100 to 500.

**Answer:**

#include<stdio.h>

int main(){

  int n;

  printf("Enter a number between 100 and 500 : ");

  scanf("%d", &n);

  if(n < 100 || n > 500 ) printf("The Enter number is not in range (100 to 500).");

  else {

    if(n % 5 == 0 && n % 11 == 0) printf("%d is divisible by 5 and 11.", n);

    else printf("%d is not divisible by 5 and 11.", n);

  }

  return 0;

}

**Output:**



16. Write a C program to check whether a number is even or odd.

**Answer:**

#include<stdio.h>

int main(){

  int n;

  printf("Enter a number : ");

  scanf("%d", &n);

  if(n == 0) printf("Enter number is zero.");

  else if(n % 2 == 0 ) printf("%d is an even number.", n);

  else  printf("%d is an odd number.", n);

  return 0;

}

**Output:**



17. Write a C program to check whether a year is a leap year or not.

**Answer:**

#include<stdio.h>

int main(){

  int n;

  printf("Enter a year : ");

  scanf("%d", &n);

  if(n % 100 == 0){

    if(n % 400 == 0) printf("%d is Leap Year.", n);

    else printf("%d is not Leap Year.", n);

  }

  else if(n % 4 == 0) printf("%d is Leap Year.", n);

  else printf("%d is not Leap Year.", n);

  return 0;

}

**Output:**



18. Write a C program to check whether a character is alphabet or not.

**Answer:**

#include<stdio.h>

int main(){

  char ch;

  printf("Enter a character : ");

  scanf("%c", &ch);

  int n = (int)ch;

  if((n >= 65 && n <= 90) || (n >= 97 && n <= 122)) printf("%c is an Alphabet.", ch);

  else printf("%c is not an Alphabet.", ch);

  return 0;

}

**Output:**



19. Write a C program to input any alphabet and check whether it is a vowel or consonant.

**Answer:**

#include<stdio.h>

int main(){

  char ch;

  printf("Enter a character : ");

  scanf("%c", &ch);

  if((ch >= 'A' && ch <= 'Z') || (ch >= 'a' && ch <= 'z')) {

    if(ch == 'a' || ch == 'e' || ch == 'i' || ch == 'o' || ch == 'u')

      printf("%c is a vowel.", ch);

    else printf("%c is a consonant.", ch);

  }

  else printf("%c is not an Alphabet.", ch);

  return 0;

}

**Output:**



20. Write a C program to input any character and check whether it is an alphabet, digit, or special character.

**Answer:**

#include<stdio.h>

int main(){

  char ch;

  printf("Enter a character : ");

  scanf("%c", &ch);

  if((ch >= 'A' && ch <= 'Z') || (ch >= 'a' && ch <= 'z'))

    printf("%c is an Alphabet.", ch);

  else if ((ch >= '0') && (ch <= '9'))

    printf("%c is a Number.", ch);

  else printf("%c is a Special Character.", ch);

  return 0;

}

**Output:**

