**Assignment Module 3.1**

**Q1. Display This Information using printf.**

* Your name, Your Age, Birthdate, Address

#include <stdio.h>

int main() {

printf("Name : Prashant Kate");

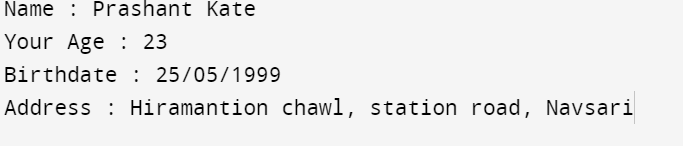
printf("\nYour Age : 23");

printf("\nBirthdate : 25/05/1999");

printf("\nAddress : Hiramantion chawl, station road, Navsari");

}

**Output :**



**Q2. Write a program to make Simple calculator (to make addition, subtraction, multiplication, division and modulo)**

* **Addition :**

#include <stdio.h>

int main() {

int a = 12, b=10, sum= a+b;

printf("%d",sum);

}

* **Subtraction:**

#include <stdio.h>

int main() {

int a = 50, b=34, sum= a-b;

printf("%d",sum);

}

* **multiplication:**

#include <stdio.h>

int main() {

int a = 12, b=12, sum= a\*b;

printf("%d",sum);

}

* **Divison:**

#include <stdio.h>

int main() {

float a = 100, b=15, sum= a/b;

printf("%f",sum);

}

* **Modulo:**

#include <stdio.h>

int main() {

}

**Q3. WAP to find area of circle, rectangle and triangle**

#include <stdio.h>

int main() {

double principal = 100000,rate\_of\_interest = 7,

time\_period = 1,simple\_interest;

// Calculate simple interest

simple\_interest = (principal \* rate\_of\_interest \* time\_period) / 100;

printf("Principal Amount: %lf INR\n", principal);

printf("Rate of Interest: %lf%%\n", rate\_of\_interest);

printf("Time Period: %lf year\n", time\_period);

printf("Simple Interest: %lf INR\n", simple\_interest);

return 0;

}

**Q4. WAP to find simple interest**

#include <stdio.h>

int main() {

// a=principal,b=intrest,c=time period

int a=100000,b=7,c=1,

sum=a\*b\*c/100;

printf("%d",sum);

return 0; }

}

**Q5. WAP to check if the given year is a leap year or not.**

#include <stdio.h>

int main() {

int year;

// Input year from the user

printf("Enter a year: ");

scanf("%d", &year);

// Check if it's a leap year

if ((year % 4 == 0 && year % 100 != 0) || (year % 400 == 0)) {

printf("%d is a leap year.\n", year);

} else {

printf("%d is not a leap year.\n", year);

return 0;

}

**Q6. WAP to convert years into days and days into years.**

#include <stdio.h>

int main() {

int days, year, week, day;

printf("Enter the number of days: ");

scanf("%d", &days);

year = days / 365;

week = (days % 365) / 7;

day = (days % 365) % 7;

printf("Years: %d\n", year);

printf("Weeks: %d\n", week);

printf("Days: %d\n", day);

return 0;

}

**Assignment Module 3.2**

**Q1. WAP to make simple calculator (operation include Addition, Subtraction, Multiplication, . Divison, modulo).**

#include <stdio.h>

int main(){

int a,b,choice;

printf("Enter first value:");

scanf("%d",&a);

printf("Enter second value:");

scanf("%d",&b);

printf("1. Addition\n");

printf("2. Subtraction\n");

printf("3. Multiplication\n");

printf("4. Division\n");

printf("5. Modulo\n");

printf("Enter your choice (1/2/3/4/5): ");

scanf("%d",&choice);

switch(choice) {

case 1:

printf("sum= %d",a+b);

break;

case 2:

printf("substraction= %d",a-b);

break;

case 3:

printf("Multiplication= %d",a\*b);

break;

case 4:

printf("Divison= %d",a/b);

break;

default:

printf("Enter a valid value");

}

}

**Q2. WAP to swap two numbers without using third variable.**

#include <stdio.h>

int main() {

int a, b;

printf("Enter two numbers:\n");

printf("Enter the first number: ");

scanf("%d", &a);

printf("Enter the second number: ");

scanf("%d", &b);

printf("Before swapping: a = %d, b = %d\n", a, b);

a = a + b; // Add the values of a and b and store the result in a

b = a - b; // Subtract the original value of b from the updated a to get the original value of a and store it in b

a = a - b; // Subtract the new value of b from the updated a to get the original value of b and store it in a

printf("After swapping: a = %d, b = %d\n", a, b);

return 0;

}

**Q3. WAP to find number is even or odd using ternary operator.**

#include <stdio.h>

int main() {

int num;

printf("Enter a number: ");

scanf("%d", &num);

// Using the ternary operator to check if the number is even or odd

(num % 2 == 0) ? printf("%d is even.\n", num) : printf("%d is odd.\n");

return 0;

}

**Q4. WAP to show**

1. **Monday to Sunday using switch case**

#include <stdio.h>

int main() {

int dayNumber;

printf("Enter a number (1-7) to find the corresponding day of the week: ");

scanf("%d", &dayNumber);

switch (dayNumber) {

case 1:

printf("Monday\n");

break;

case 2:

printf("Tuesday\n");

break;

case 3:

printf("Wednesday\n");

break;

case 4:

printf("Thursday\n");

break;

case 5:

printf("Friday\n");

break;

case 6:

printf("Saturday\n");

break;

case 7:

printf("Sunday\n");

break;

default:

printf("Invalid input. Please enter a number between 1 and 7.\n");

}

return 0;

}

1. **Vowel or Consonant using switch case**

#include <stdio.h>

int main()

{

char vc;

/\* Input an alphabet from user \*/

printf("Please enter any alphabet: ");

scanf("%c", &vc);

/\* Switch value of vc \*/

switch(vc)

{

case 'a':

printf("Vowel");

break;

case 'e':

printf("Vowel");

break;

case 'i':

printf("Vowel");

break;

case 'o':

printf("Vowel");

break;

case 'u':

printf("Vowel");

break;

case 'A':

printf("Vowel");

break;

case 'E':

printf("Vowel");

break;

case 'I':

printf("Vowel");

break;

case 'O':

printf("Vowel");

break;

case 'U':

printf("Vowel");

break;

default:

printf("Consonant");

}

return 0;

}

**Q4. Looping programs:**

1. **WAP to print 972 to 897 using for loop**

#include <stdio.h>

int main() {

int i;

for (i = 972; i >= 897; i--) {

printf("%d ", i);

}

return 0;

}

1. **WAP to take 10 no. Input from user and find out …**
2. **How many Even numbers are there**
3. **How many odd numbers are there**
4. **Sum of even numbers**
5. **Sum of odd numbers WAP to print table up to given numbers**

#include <stdio.h>

int main() {

int numbers[10];

int countEven = 0, countOdd = 0, sumEven = 0, sumOdd = 0;

// Input 10 numbers from the user

printf("Enter 10 numbers:\n");

for (int i = 0; i < 10; i++) {

scanf("%d", &numbers[i]);

}

// Calculate count and sum of even and odd numbers

for (int i = 0; i < 10; i++) {

if (numbers[i] % 2 == 0) {

countEven++;

sumEven += numbers[i];

} else {

countOdd++;

sumOdd += numbers[i];

}

}

// Output results

printf("Number of even numbers: %d\n", countEven);

printf("Number of odd numbers: %d\n", countOdd);

printf("Sum of even numbers: %d\n", sumEven);

printf("Sum of odd numbers: %d\n", sumOdd);

// Printing the table of numbers

int num;

printf("Enter a number to print its table: ");

scanf("%d", &num);

printf("Table of %d:\n", num);

for (int i = 1; i <= 10; i++) {

printf("%d x %d = %d\n", num, i, num \* i);

}

return 0;

}

**Q5. WAP to print factorial of given number.**

#include <stdio.h>

void main(){

int i,f=1,num;

printf("Input the number : ");

scanf("%d",&num);

for(i=1;i<=num;i++)

f=f\*i;

printf("The Factorial of %d is: %d\n",num,f);

}

**Q6. WAP to print Fibonacci series up to given numbers.**

#include <stdio.h>

int main() {

int i, n;

// first and second terms

int t1 = 0, t2 = 1;

// next term (3rd term)

int Term = t1 + t2;

// get no. of terms from user

printf("Enter the number of terms: ");

scanf("%d", &n);

// print the first two terms t1 and t2

printf("Fibonacci Series: %d, %d, ", t1, t2);

// print 3rd to nth terms

for (i = 3; i <= n; ++i) {

printf("%d, ", Term);

t1 = t2;

t2 = Term;

Term = t1 + t2;

} return 0;

}

**Q6. WAP to print number in reverse order e.g.: number = 64728 ---> reverse = 82746**

#include <stdio.h>

int main() {

int number, reverse = 0, remainder;

printf("Enter a number: ");

scanf("%d", &number);

while (number != 0) {

remainder = number % 10;

reverse = reverse \* 10 + remainder;

number /= 10;

}

printf("Reverse of the number: %d\n", reverse);

return 0;

}

**Q7. ­\_Write a program to find out the max from given number (E.g., No: -1562 Max . number is 6).**

#include <stdio.h>

int main() {

double a, b, c;

printf("Enter three numbers: ");

scanf("%lf %lf %lf", &a, &b, &c);

if (a >= b && a >= c)

printf("%.2lf is the largest number.", a);

else if (b >= a && b >= c)

printf("%.2lf is the largest number.", b);

else

printf("%.2lf is the largest number.", c);

return 0;

}

**Q7\_ Write a program make a summation of given number (E.g., 1523 Ans: -11)**

#include <stdio.h>

int main() {

int number, sum = 0, digit;

printf("Enter a number: ");

scanf("%d", &number);

// Calculate the sum of digits

while (number != 0) {

digit = number % 10; // Get the last digit

sum += digit; // Add the digit to the sum

number /= 10; // Remove the last digit

}

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

return 0;

}

**Q8 \_ Write a program you have to make a summation of first and last Digit. (E.g., 1234 Ans: -5)**

#include <stdio.h>

int main() {

int number, fDigit, lDigit, sum;

printf("Enter a number: ");

scanf("%d", &number);

fDigit = number;

while (fDigit >= 10) {

fDigit /= 10;

}

// Extract last digit

lDigit = number % 10;

// Calculate the sum of first and last digits

sum = fDigit + lDigit;

printf("Sum of first and last digits: %d\n", sum);

return 0;

}

**Patterns:**

**1.**



#include <stdio.h>

int main() {

int i, j, rows;

// Number of rows in the pattern

rows = 5;

for(i = 1; i <= rows; i++) {

for(j = 1; j <= i; j++) {

// Print 1 if the sum of row number and column number is odd, otherwise print 0

if((i + j) % 2 == 0) {

printf("1");

} else {

printf("0");

}

}

printf("\n");

}

return 0;

}

**2.**



#include <stdio.h>

int main() {

int i, j, rows;

utput

// Number of rows in the pattern

rows = 5;

for(i = 1; i <= rows; i++) {

for(j = 1; j <= i; j++) {

// Print the characters

printf("%c", ch);

ch++;

}

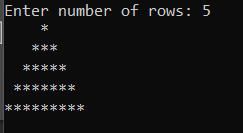
printf("\n");

}

return 0;

}

**3.**



#include <stdio.h>

int main() {

int i, j, rows;

// Number of rows in the pyramid

printf("Enter number of rows: ");

scanf("%d", &rows);

for(i = 1; i <= rows; i++) {

// Print spaces before stars

for(j = 1; j <= rows - i; j++) {

printf(" ");

}

// Print stars

for(j = 1; j <= 2 \* i - 1; j++) {

printf("\*");

}

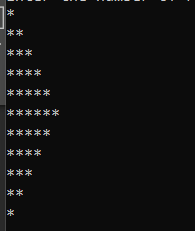
// Move to the next line

printf("\n");

} return 0;

}

**4.**



#include <stdio.h>

int main()

{

int n;

printf("Enter the number of rows in your pattern: ");

scanf("%d",&n);

for(int i = 1; i <= n; i++) {

for(int j = 1; j <= i; j++) {

printf("\*");

}

printf("\n");

}

for(int i = n - 1; i >= 1; i--) {

for(int j = 1; j <= i; j++) {

printf("\*");

}

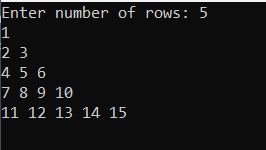
printf("\n");

}

return 0;

}

**5.**



#include <stdio.h>

int main() {

int i, j, num = 1, rows;

// Number of rows in the pattern

printf("Enter number of rows: ");

scanf("%d", &rows);

for(i = 1; i <= rows; i++) {

for(j = 1; j <= i; j++) {

// Print the current number and increment it for the next iteration

printf("%d ", num);

num++;

}

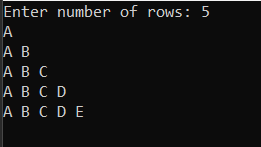
// Move to the next line after each row

printf("\n");

} return 0;

}

**6.**



#include <stdio.h>

int main() {

int i, j;

char ch = 'A';

// Number of rows

int rows;

printf("Enter number of rows: ");

scanf("%d", &rows);

for(i = 1; i <= rows; i++) {

for(j = 1; j <= i; j++) {

// characters ('A' + j - 1) for each row

printf("%c ", ch + j - 1);

}

// next line

printf("\n"); }

return 0;

}