SECTION A

1. #include <stdio.h>

#include <stdlib.h>

int main()

{

int x=1;

while(x<=100)

{

printf("%d",x);

x++;

}

return 0;

}

2. #include <stdio.h>

#include <stdlib.h>

int main()

{

int marks[10],tot=0;

float avg=0.0;

printf("Enter the 10 marks:\n");

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

printf("Marks %d: ", i + 1);

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

tot=tot+marks[i];

}

avg = tot / 10;

printf("Total marks: %d\n", tot);

printf("Average marks: %.2f\n", avg);

if (avg < 50) {

printf("Fail!\n");

} else {

printf("Pass!\n");

}

return 0;

}

3. #include <stdio.h>

#include <stdlib.h>

int main()

{

int number;int i=1,factorial=1;

printf("Enter number");

scanf("%d",&number);

while (i<=number)

{

factorial\*=i;

i++;

}

printf("Factorial is %d",factorial);

return 0;

}

4. #include <stdio.h>

#include <stdlib.h>

int main()

{

int num,sum = 0;

printf("Enter a number: ");

scanf("%d", &num);

int original\_num = num;

while (num > 0) {

int digit = num % 10;

sum += digit;

num /= 10;

}

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

return 0;

}

5. #include <stdio.h>

#include <stdlib.h>

int main()

{

int num, reversed\_num = 0;

printf("Enter a number: ");

scanf("%d", &num);

do {

int digit = num % 10;

reversed\_num = reversed\_num \* 10 + digit;

num /= 10;

} while (num != 0);

printf("Reversed number: %d\n", reversed\_num);

return 0;

}

6. #include <stdlib.h>

int main()

{

int base, exponent, result = 1;

printf("Enter the base: ");

scanf("%d", &base);

printf("Enter the exponent: ");

scanf("%d", &exponent);

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

result \*= base;

}

printf("%d raised to the power of %d is: %d\n", base, exponent, result);

return 0;

}

7. #include <stdio.h>

#include <stdlib.h>

int main()

{

int n = 10,prev = 0,curr = 1;

printf("First %d numbers of the Fibonacci sequence:\n", n);

printf("%d ", prev);

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

printf("%d ", curr);

int next = prev + curr;

prev = curr;

curr = next;

}

printf("\n");

return 0;

}

08. #include <stdio.h>

#include <stdlib.h>

int main()

{

int num, original\_num, remainder, result = 0, n = 0;

printf("Enter a number: ");

scanf("%d", &num);

original\_num = num;

// Calculate the number of digits

while (original\_num != 0) {

original\_num /= 10;

++n;

}

original\_num = num;

// Calculate the result

while (original\_num != 0) {

remainder = original\_num % 10;

result += pow(remainder, n);

original\_num /= 10;

}

// Check if the number is an Armstrong number

if (result == num) {

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

} else {

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

}

return 0;

}

9. #include <stdio.h>

#include <stdlib.h>

int main()

{

char letter;

printf("ASCII values for letters A to Z:\n");

for (letter = 'A'; letter <= 'Z'; letter++) {

printf("%c: %d\n", letter, letter);

}

return 0;

}

10. #include <stdio.h>

#include <stdlib.h>

int main()

{

int rows = 5;

int i, j;

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

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

printf("\*");

}

printf("\n");

}

return 0;

}

11. #include <stdio.h>

#include <stdlib.h>

int main()

{

int isPrime(int number) {

if (number <= 1) {

return 0;

}

for (int i = 2; i < number; i++) {

if (number % i == 0) {

return 0;

}

}

return 1;

}

int main() {

int number;

printf("Enter a positive integer: ");

scanf("%d", &number);

if (isPrime(number)) {

printf("%d is a prime number.\n", number);

} else {

printf("%d is not a prime number.\n", number);

}

return 0;

}

12. #include <stdio.h>

#include <stdlib.h>

int main()

{

void printFactors(int number) {

printf("Factors of %d: ", number);

for (int i = 1; i <= number / 2; i++) {

if (number % i == 0) {

printf("%d ", i);

}

}

printf("%d\n", number);

}

int main() {

int number;

printf("Enter a positive integer: ");

scanf("%d", &number);

printFactors(number);

return 0;

}

13. #include <stdlib.h>

int main()

{

int number;

int sum = 0;

printf("Enter numbers (enter -1 to stop):\n");

while (1) {

scanf("%d", &number);

if (number == -1) {

break;

}

sum += number;

}

printf("Sum of the entered numbers: %d\n", sum);

return 0;

}

13. #include <stdio.h>

#include <stdlib.h>

int main()

{

int arr[10];

int i;

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

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

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

}

printf("Entered array:\n");

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

printf("%d ", arr[i]);

}

printf("\n");

return 0;

}

14. #include <stdio.h>

#include <stdlib.h>

int main()

{

int arr[10];

int i, count = 0;

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

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

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

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

count++;

}

}

printf("Count of even numbers: %d\n", count);

return 0;

}

SECTION B

1. #include <stdio.h>

#include <stdlib.h>

int main()

{

int numbers[10];

int positiveCount = 0, negativeCount = 0, zeroCount = 0;

int i;

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

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

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

if (numbers[i] > 0) {

positiveCount++;

} else if (numbers[i] < 0) {

negativeCount++;

} else {

zeroCount++;

}

}

printf("Number of positive numbers: %d\n", positiveCount);

printf("Number of negative numbers: %d\n", negativeCount);

printf("Number of zeros");

return 0;

}

2. #include <stdio.h>

#include <stdlib.h>

int main()

{

int marks[10],i,sum=0,max=0,min=100;

printf("Enter the marks of 10 students:\n");

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

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

sum += marks[i];

if (marks[i] > max) {

max = marks[i];

}

if (marks[i] < min) {

min= marks[i];

}

}

float average = (float)sum / 10;

printf("Maximum marks: %d\n", max);

printf("Minimum marks: %d\n", min);

printf("Average marks: %.2f\n", average);

return 0;

}

3. #include <stdio.h>

#include <stdlib.h>

int main()

{

float prices[10];

int i;

float sum = 0;

int count = 0;

printf("Enter the prices of 10 items:\n");

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

scanf("%f", &prices[i]);

sum += prices[i];

if (prices[i] > 200) {

count++;

}

}

// Calculate the average price

float average = sum / 10;

printf("Average price of an item: %.2f\n", average);

printf("Number of items with price greater than 200: %d\n", count);

return 0;

}

4. #include <stdio.h>

#include <stdlib.h>

int main()

{

int employeeNo;

float basicSalary;

int count = 0;

printf("Enter the Employee No and Basic Salary (enter -999 for Employee No to end):\n");

while (1) {

printf("Employee No: ");

scanf("%d", &employeeNo);

if (employeeNo == -999) {

break;

}

printf("Basic Salary: ");

scanf("%f", &basicSalary);

if (basicSalary >= 5000) {

count++;

}

}

printf("Number of Employees with Basic Salary >= 5000: %d\n", count);

return 0;

}

5. #include <stdio.h>

#include <stdlib.h>

int main()

{

#define NORMAL\_RATE 150

#define EXCESS\_RATE 200

#define THRESHOLD 4000

int employeeNo, hoursWorked, overtimePayment,count = 0, overtimeExceedsThresholdCount = 0;

printf("Enter the Employee No and Hours Worked (enter -999 for Employee No to end):\n");

while (1) {

printf("Employee No: ");

scanf("%d", &employeeNo);

if (employeeNo == -999) {

break;

}

printf("Hours Worked: ");

scanf("%d", &hoursWorked);

if (hoursWorked > 40) {

int overtimeHours = hoursWorked - 40;

overtimePayment = (40 \* NORMAL\_RATE) + (overtimeHours \* EXCESS\_RATE);

} else {

overtimePayment = hoursWorked \* NORMAL\_RATE;

}

printf("Employee No: %d\n", employeeNo);

printf("Overtime Payment: %d\n", overtimePayment);

if (overtimePayment > THRESHOLD) {

overtimeExceedsThresholdCount++;

}

count++;

}

float percentage = (float)overtimeExceedsThresholdCount / count \* 100;

printf("Percentage of employees whose Overtime Payment exceeds Rs. 4000: %.2f%%\n", percentage);

return 0;

}