**Section A**

1.

**While loop**

#include <stdio.h>

int main() {

int i = 0;

while (i <= 100) {

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

i++;

}

return 0;

}

**Do-while loop**

#include <stdio.h>

int main() {

int i = 0;

do {

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

i++;

} while (i <= 100);

return 0;

}

**For loop**

#include <stdio.h>

int main() {

for (int i = 0; i <= 100; i++) {

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

}

return 0;

}

2.

#include <stdio.h>

int main()

{

int marks[10];

int total = 0;

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

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

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

total += marks[i];

}

float average = (float)total / 10;

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

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

if (average < 50) {

printf("Fail!\n");

}

Else

{

printf("Pass!\n");

}

return 0;

}

3.

#include <stdio.h>

int main()

{

int number;

int factorial = 1;

printf("Enter a number: ");

scanf("%d", &number);

if (number < 0) {

printf("Factorial is not defined for negative numbers.\n");

}

Else

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

{

factorial \*= i;

}

printf("Factorial of %d is %d\n", number, factorial);

return 0;

}

4.

#include <stdio.h>

int main() {

int number, digit, sum;

printf("Enter a number: ");

scanf("%d", &number);

sum = 0;

while (number > 0) {

digit = number % 10;

sum += digit;

number = number / 10;

}

// Print the sum

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

return 0;

}

5.

#include <stdio.h>

int main() {

int number, reversed\_number = 0, digit;

printf("Enter a number: ");

scanf("%d", &number);

6.

#include <stdio.h>

int main() {

int base, exponent, power = 1;

printf("Enter the base: ");

scanf("%d", &base);

printf("Enter the exponent: ");

scanf("%d", &exponent);

7.

#include <stdio.h>

int main() {

8.

#include <stdio.h>

int main() {

int number, original\_number, sum = 0, digit;

printf("Enter a number: ");

scanf("%d", &number);

original\_number = number;

while (number > 0) {

digit = number % 10;

sum += digit \* digit \* digit;

number = number / 10;

}

if (sum == original\_number) {

printf("The number is an Armstrong number.\n");

} else {

printf("The number is not an Armstrong number.\n");

}

return 0;

}

9.

#include <stdio.h>

int main() {

char letter;

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

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

}

return 0;

}

10.

#include <stdio.h>

int main() {

int i, j;

for (i = 0; i < 5; i++) {

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

printf("\*");

}

printf("\n");

}

return 0;

}

11.

#include <stdio.h>

int main() {

int number, i;

printf("Enter a number: ");

scanf("%d", &number);

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

if (number % i == 0) {

printf("The number is not prime.");

return 0;

}

}

printf("The number is prime.");

return 0;

}

12.

#include <stdio.h>

int main() {

int number, sum = 0;

printf("Enter a number: ");

scanf("%d", &number);

return 0;

}

13.

#include <stdio.h>

int main() {

int array[10];

int i;

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

printf("Enter a number: ");

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

}

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

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

}

return 0;

}

14.

#include <stdio.h>

int main() {

int array[10];

int i, even count = 0;

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

printf("Enter a number: ");

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

**Section B**

1.

#include <stdio.h>

int main() {

2.

#include <stdio.h>

int main() {

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

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

printf("Enter the marks of student %d: ", i + 1);

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

3.

#**include** <stdio.h>

int main() {

int prices[10], count = 0, total = 0;

float average;

4.