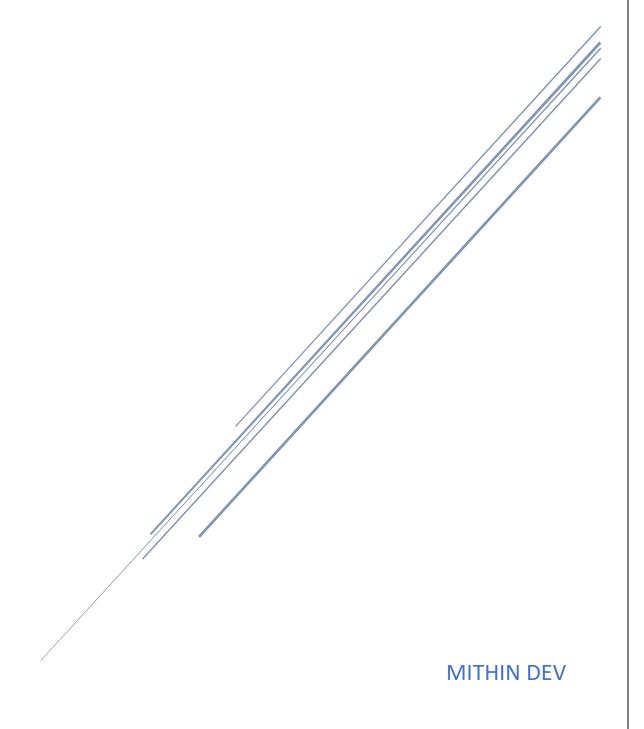# ASSIGNMENT-2_B

CB.EN.U4AIE22132

MITHIN DEV

QUESTION -13(A) [FOR-LOOP]

// Q13. Write a program in C to display the n terms of odd natural number and their sum.

CODE :-

```c
#include <stdio.h>

// Q13.  Write a program in C to display the n terms of odd natural number and
their sum.

int Sum(int num);
void main() {
  int num, sum;
  printf("Enter num :");
  scanf("%d", &num);
  for (int i = 1;i <= num; i++) {
    if (i%2 == 1){
      printf("%d, ", i);
    }
  }
  sum = Sum(num);
  printf("\nThe sum is :%d", sum);
}

int Sum(int num) {
  int sum = 0;
  for (int i = 1;i <= num; i++) {
    if (i%2 == 1){
      sum = sum + i;
    }

  }
  return sum;
}
```

OUTPUT:-

Enter num :5

1, 3, 5,

The sum is :9

QUESTION -13(B) [WHILE-LOOP]

```c
// Q13.   Write a program in C to display the n terms of odd natural number and
their sum.
```

CODE : -

```c
#include <stdio.h>

// WHILE-LOOP
// Q13.   Write a program in C to display the n terms of odd natural number and
their sum.

int Sum(int num);
void main() {
  int num, sum;
  printf("Enter num :");
  scanf("%d", &num);
  int i = 1;
  while (i <= num) {
    if (i%2 == 1){
      printf("%d, ", i);
    }
    i++;
  }
  sum = Sum(num);
  printf("\nThe sum is :%d", sum);
}

int Sum(int num) {
  int sum = 0;
  int j = 1;
  while (j <= num) {
    if (j%2 == 1){
      sum = sum + j;
    }
    j++;
    }
  return sum;
}
```

OUTPUT:-

Enter num :5

1, 3, 5,

The sum is :9

QUESTION -14(A) [FOR-LOOP]

// Q-14]Write a program in C to display the sum of n terms of the
series[9+99+999+9999+···].

CODE :-

```c
#include <stdio.h>
#include <math.h>

// Q-14]Write a program in C to display the sum of n terms of the
series[9+99+999+9999+···].

// Formula used :(10/9)*(10^n - 1) - n

int number(int n);

void main() {
  printf("Enter a number :");
  int num, sum;
  scanf("%d", &num);
  int var;
  sum = 0;

  for (int i = 1; i <= num; i++)
  {
    var = number(i);
    printf("%d, ", var);
  }

  for (int i = 1; i <= num; i++)
  {
    sum = sum + number(i);
  }
  printf("\n%d is the sum!", sum);
}

int number(int n) {
  int sum = 0;
  int var1;
  int var2;
  for (int i = 0; i < n; i++) {
    var1 = pow(10, i);
    var2 = 9 * var1;
    sum += var2;
  }
  return sum;
}
```

OUTPUT :-

Enter a number :5

9, 99, 999, 9999, 99999,

111105 is the sum!

QUESTION -14(B) [WHILE-LOOP]

// Q-14]Write a program in C to display the sum of n terms of the
series[9+99+999+9999+···].

CODE :-

```c
#include <stdio.h>
#include <math.h>

// Q-14] Write a program in C to display the sum of n terms of the
series[9+99+999+9999+···].
int number(int n);
void main() {
  printf("Enter a number :");
  int num, sum;
  scanf("%d", &num);
  int var;
  sum = 0;

  int i = 1;
  while ( i <= num )  {
    var = number(i);
    printf("%d, ", var);
    i++;
  }
  int j = 1;
  while (i <= num )
  {
    sum = sum + number(i);
  }
  printf("\n%d is the sum!", sum);
  j++;
}

int number(int n) {
  int sum = 0;
  int var1;
  int var2;
  int k = 0;
  while (k < n) {
    var1 = pow(10, k);
    var2 = 9 * var1;
    sum += var2;
    k++;
  }
  return sum;
}
```

OUTPUT :-

Enter a number :5

9, 99, 999, 9999, 99999,

111105 is the sum!