

**ES-202**  
**Introduction to Programming in C**  
**ASSIGNMENT - II**

Q1. Program to print all alphabets from a-z.

```
#include <stdio.h>

int main()
{
    int i;
    printf(" Alphabets from a-z are:\n");
    for(i=97; i<=122; i++)
    {
        printf(" %c", i);
    }
    return 0;
}
```

Output:

```
Alphabets from a-z are:
a b c d e f g h i j k l m n o p q r s t u v w x y z
```

Q2. Program to print all even numbers between 1-100.

```
#include <stdio.h>

int main()
{
    int i;
    printf("Even numbers from 1 to 100 are: \n");

    for(i=1; i<=100; i++)
    {
        if(i%2 == 0)
        {
            printf("%d ", i);
        }
    }

    return 0;
}
```

Output:

```
Even numbers from 1 to 100 are:
2
4
6
8
10
12
14
16
18
20
22
24
26
28
30
32
34
36
38
40
42
44
46
48
50
52
54
56
58
60
```

Q3. Program to find um of all odd numbers between 1 to n.

```
#include <stdio.h>

int main()
{
    int i, n, sum=0;

    printf("Enter upper limit: ");
    scanf("%d", &n);
    for(i=1; i<=n; i+=2)
    {
        sum += i;
    }
    printf("Sum of odd numbers = %d", sum);

    return 0;
}
```

Output:

```
Enter upper limit: 25
Sum of odd numbers = 169
```

Q4. Program to print multiplication table of any number.

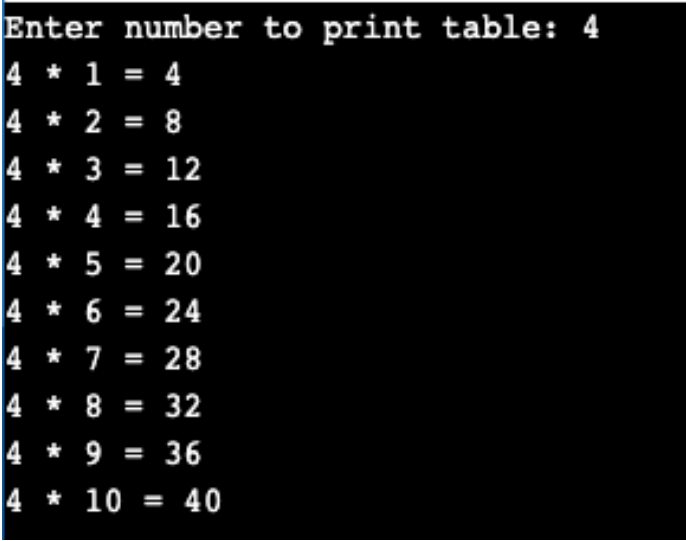
```
#include <stdio.h>

int main()
{
    int i, num;

    printf("Enter number to print table: ");
    scanf("%d", &num);
    for(i=1; i<=10; i++)
    {
        printf("%d * %d = %d\n", num, i, (num*i));
    }

    return 0;
}
```

Output:



```
Enter number to print table: 4
4 * 1 = 4
4 * 2 = 8
4 * 3 = 12
4 * 4 = 16
4 * 5 = 20
4 * 6 = 24
4 * 7 = 28
4 * 8 = 32
4 * 9 = 36
4 * 10 = 40
```

Q5. Program to count the number of digits in a number.

```
#include <stdio.h>

int main()
{
    long long num;
    int count = 0;
    printf("Enter any number: ");
    scanf("%lld", &num);
    do
    {
        count++;
        num /= 10;
    } while(num != 0);

    printf("Total digits: %d", count);

    return 0;
}
```

Output:

```
Enter any number: 79756
Total digits: 5
```

Q6. Program to find the first and last digits of a number.

```
#include <stdio.h>

int main()
{
    int n, last, first;

    /* Input number from user */
    printf("Enter any number: ");
    scanf("%d", &n);
    first = n;
    last = n % 10;
    while(first >= 10)
    {
        first = first / 10;
    }
    printf("First digit = %d", first);
    printf("\nLast digit = %d", last);

    return 0;
}
```

Output:

```
Enter any number: 48576
First digit = 4
Last digit = 6
```

Q7. Program to swap the first and last digits of a number.

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

int main()
{
    int num, swap;
    int first, last, digits;

    printf("Enter any number: ");
    scanf("%d", &num);
    last = num % 10;
    digits = (int) log10(num);
    first = (int) (num / pow(10, digits));

    swap = last;
    swap *= (int) round(pow(10, digits));
    swap += num % ((int)round(pow(10, digits)));
    swap -= last;
    swap += first;

    printf("Original number = %d", num);
    printf("\nNumber after swapping first and last digit: %d", swap);

    return 0;
}
```

Output:

```
Enter any number: 3847
Original number = 3847
Number after swapping first and last digit: 7843
```

Q8. Program to find frequency of each digit in a number.

```
#include <stdio.h>
#define BASE 10 /* Constant */

int main()
{
    long long num, n;
    int i, last, freq[BASE];
    printf("Enter any number: ");
    scanf("%lld", &num);

    for(i=0; i<BASE; i++)
    {
        freq[i] = 0;
    }
    n = num;
    while(n!= 0)
    {
        last = n % 10;
        n /= 10;
        freq[last]++;
    }
    printf("Frequency of each digit in %lld is: \n", num);
    for(i=0; i<BASE; i++)
    {
        printf("Frequency of %d = %d\n", i, freq[i]);
    }

    return 0;
}
```

Output:

```
Enter any number: 465899
Frequency of each digit in 465899 is:
Frequency of 0 = 0
Frequency of 1 = 0
Frequency of 2 = 0
Frequency of 3 = 0
Frequency of 4 = 1
Frequency of 5 = 1
Frequency of 6 = 1
Frequency of 7 = 0
Frequency of 8 = 1
Frequency of 9 = 2
```



Q9. Program to enter a number and display it in words.

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

```
int main()
{
    int n, num = 0;
    printf("Enter any number to print in words: ");
    scanf("%d", &n);
    while(n != 0)
    {
        num = (num * 10) + (n % 10);
        n /= 10;
    }
    while(num != 0)
    {
        switch(num % 10)
        {
            case 0:
                printf("Zero ");
                break;
            case 1:
                printf("One ");
                break;
            case 2:
                printf("Two ");
                break;
            case 3:
                printf("Three ");
                break;
            case 4:
                printf("Four ");
                break;
            case 5:
                printf("Five ");
                break;
            case 6:
                printf("Six ");
                break;
            case 7:
                printf("Seven ");
                break;
            case 8:
                printf("Eight ");
                break;
            case 9:
                printf("Nine ");
                break;
        }

        num = num / 10;
    }
}
```

```
}  
    return 0;  
}
```

Output:

```
Enter any number to print in words: 7  
Seven
```

Q10. Program to print all ASCII characters with their values.

```
#include <stdio.h>

int main()
{
    int i;
    for(i=0; i<=255; i++)
    {
        printf("ASCII value of character %c = %d\n", i, i);
    }

    return 0;
}
```

Output:

```
ASCII value of character ! = 33
ASCII value of character " = 34
ASCII value of character # = 35
ASCII value of character $ = 36
ASCII value of character % = 37
ASCII value of character & = 38
ASCII value of character ' = 39
ASCII value of character ( = 40
ASCII value of character ) = 41
ASCII value of character * = 42
ASCII value of character + = 43
ASCII value of character , = 44
ASCII value of character - = 45
ASCII value of character . = 46
ASCII value of character / = 47
ASCII value of character 0 = 48
ASCII value of character 1 = 49
ASCII value of character 2 = 50
ASCII value of character 3 = 51
ASCII value of character 4 = 52
```