

1. Write a C program to check whether a number is palindrome or not.

Code:-

```
#include <stdio.h>
int main()
{
    int a;
    printf("Enter a number \n ");
    scanf("%d", &a);
    int sum = 0, temp, check = a;
    for (a; a > 0; a /= 10)
    {
        temp = a % 10;
        sum = (sum * 10) + temp;
    }
    if (check == sum)
        printf("Number is palindrome");
    else
        printf("Number is not palindrome");
}
```

2. Write a C program to find sum of all even numbers between 1 to n.

Code:-

```
#include <stdio.h>

int main()
{
    int a;
    printf("Enter a number \n ");
    scanf("%d", &a);
    int sum = 0;
    for (int i = 0; i <= a; i += 2)
    {
        sum += i;
    }
    printf("%d \n", sum);
}
```

3. Write a C program to count number of digits in a number.

```
#include <stdio.h>
int main()
{
    int a;
    printf("Enter a number \n ");
    scanf("%d", &a);
    int count = 0;
    for (a; a > 0; a /= 10)
    {
        count++;
    }
    printf("%d \n", count);
}
```

- 6:-Write a C program to swap first and last digits of a number.

#include <stdio.h>

```
int main()
{
    int a;
```

```

printf("Enter a number \n ");
scanf("%d", &a);
int l = 0, f = 0, num = a, n = a, count = 0, val = 1;
for (a; a > 0; a /= 10)
{
    if (a != 0)
    {
        f = a % 10;
    }
    if (num != 0)
    {
        l = num % 10;
    }
    count++;
}
if (n != 0)
{
    n /= 10;
}
n = (n * 10) + f;
while (count != 0)
{
    count--;
    val = val * 10;
}
val /= 10;
if (n != 0)
{
    n %= val;
}
printf("%d%d", l, n);
}

```

10:-Deepak wants to convert a character entered in lower case to uppercase and if it is entered in upper case then he would like to convert it to lowercase.

```

#include <stdio.h>
int main()
{
    char a;
    printf("Enter char \n ");
    scanf("%c", &a);

    if (a >= 65 && a <= 97)
    {
        a = a + 32;
    }
    else
    {
        a = a - 32;
    }

    printf("%c\n", a);
}

```

11:-The Air Quality Index (AQI) shows the levels of health concerns for a particular area. The level of air quality for a given AQI is mentioned as below:

```
#include <stdio.h>
int main()
{
    int a;
    printf("Enter AQI \n ");
    scanf("%d", &a);

    if (a > 0 && a <= 50)
        printf("Healthy");
    else if (a > 50 && a <= 100)
        printf("Moderate");
    else if (a > 100 && a <= 200)
        printf("Unhealthy");
    else if (a > 200 && a <= 300)
        printf("very Unhealthy");
    else if (a > 300 && a <= 500)
        printf("Hazardous");
}
```

19;-Write a program in C to find the maximum and minimum element in an array.

```
#include <stdio.h>

int main()
{
    int i, s;
    printf("Enter the size of an array\n");
    scanf("%d", &s);
    int a[s];
    printf("Enter the %d Elements\n", s);
    for (i = 0; i < s; i++)
        scanf("%d", &a[i]);

    int max = a[0];
    int min = a[0];
    for (int i = 0; i < s; i++)
    {
        if (a[i] > max)
        {
            max = a[i];
        }
        if (a[i] < min)
        {
            min = a[i];
        }
    }
    printf("min = %d\n", min);
    printf("max = %d\n", max);
}
```

Pattern:-

1:-

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

```
int main()
```

```
{
    for (int i = 0; i < 5; i++)
    {
        for (int j = 0; j < i; j++)
        {
            printf("*");
        }
        printf("\n");
    }
}
```

2:-

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

```
int main()
```

```
{
    for (int i = 1; i <= 6; i++)
    {
        int count = 1;
        for (int j = 1; j < i; j++)
        {
            printf("%d", count);
            count++;
        }
        printf("\n");
    }
}
```

3:-Pyramid

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

```
int main()
```

```
{
    for (int i = 1; i < 5; i++)
    {
        int count = 1;
        for (int j = 1; j < 8; j++)
        {
            if (j >= 5 - i && j <= 3 + i)
            {
                printf("%d", count);
                count++;
            }
            else
            {
                printf(" ");
            }
        }
        printf("\n");
    }
}
```

4:-Hollow rectangle:-

```
#include <stdio.h>
int main()
{
    for (int i = 1; i < 4; i++)
    {
        for (int j = 1; j < 6; j++)
        {
            if (i == 1 || j == 1 || i == 3 || j == 5)
            {
                printf("*");
            }
            else
            {
                printf(" ");
            }
        }
        printf("\n");
    }
}
```

5:-Diamond :-

```
#include <stdio.h>

int main()
{
    int count = 65;
    for (int i = 1; i < 8; i++)
    {
        for (int j = 1; j < 8; j++)
        {
            if ((j >= 5 - i && j <= 3 + i) && (j >= i - 3 && j <= 11 - i))
            {
                printf("%c", count);
            }
            else
            {
                printf(" ");
            }
        }
        count++;
        printf("\n");
    }
}
```