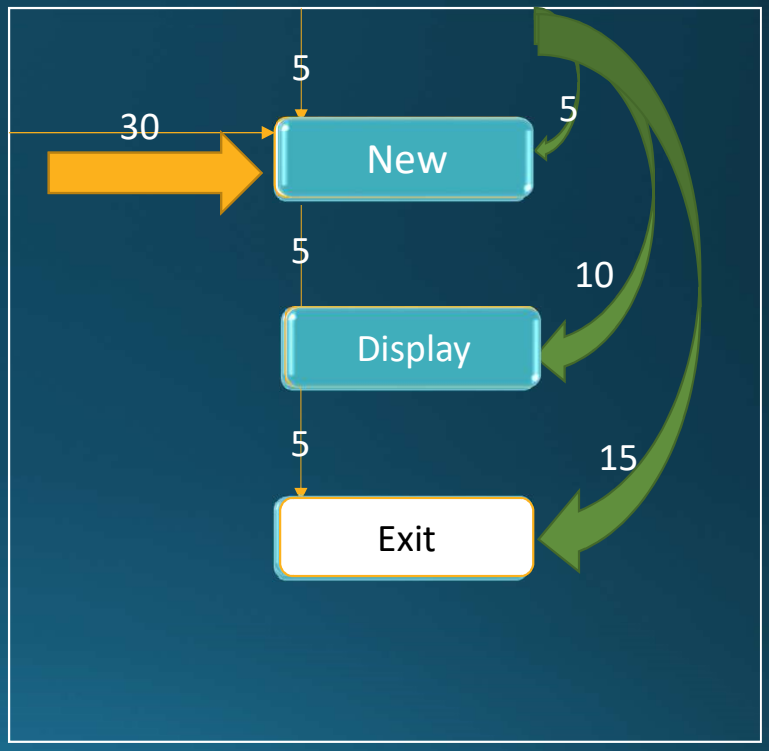
Menu Program

```
String[] Menu = { " New" , "Display " , " Exit " };
…
Console.SetCursorPosition(x, y);
…
Console.Write(Menu[i]);
…
Console.BackgroundColor = ConsoleColor.Blue;
…
ConsoleKeyInfo k=  Console.ReadKey();
```



Assignments

- Menu Program

Array *(reference type)*

- Single dimension array
  - Declare (type, name)

```
int[] arr;
```

  - Initialization array
    - Explicitly
      - new key word
      - Statically

```
arr = new int[3];
```

      - Dynamically

```
arr = new int[size];
```

    - Implicitly (must initialize its member)

```
int[] arr = new int[] { 10, 50, 3 };
```

  - Array elements
    - Index
    - Default values
      - 0 , null , false , ' \0'

Array

- Multi dimensional
  - Declare (type, name)

```
int[,] arr; // two dim array
```

```
int[,,] arr; // three dim array
```

  - Initialization array
    - Explicitly

```
arr = new int[3, 5];  // 3 rows, 5 columns
```

    - Implicitly (must initialize its member)

```
int[,] arr = new int[,] {
                {1,2,3},
                {3,4,5}
                }; // 2 rows, 3 columns
```

Array

- Array properties
  - Length -> number of the array element
- Array Methods
  - Static Methods
    - Sort
    - BinarySearch
    - Reverse
  - Normal method
    - GetLength(int dimension)
    - Arrays and strings

```
arr = new int[]{5,7,2};
Array.Sort(arr); // Static Method
```

```
arr = new int[]{5,7,2};
arr. GetLength (int dimension )
// normal Method
```

Array

- Jagged Arrays (Array of Arrays)
  - Declare

```
int [][]arr = new int [2][];  ; // can include two single  dim array
```

```
int[][,] arr = new int[3][,]; // can include three two-dimensional arrays
```

  - Initialization array

```
int[][] jArray = new int[2][];
jArray[0] = new int[3] { 1, 2, 3 };
jArray[1] = new int[4] { 4, 5, 6, 7 };
```

```
int[][] jArray = new int[2][] {
                    new int[3] { 1, 2, 3 },
                    new int[4] { 4, 5, 6, 7 }
                };
```

Assignments

- Get integers from user and calculate max, min ,average ,sum using array
- Get the degree of 4 student with 5 subject get the sum of marks for each student