

The screenshot shows a Visual Studio Code (VS Code) interface with a dark theme. The left sidebar contains icons for file operations like Open, Save, Find, and Run. The Explorer sidebar shows a file tree with a folder named 'MAIN.C' containing files like '.vscode', 'main.dSYM', 'stdio.c', 'a.out', 'hello.c', 'main.c', 'sample.txt', 'tempCodeRunnerFile', and 'Untitled-1'. The main editor area displays a C program named 'main.c' with the following code:

```
#include <stdio.h>
int main() {
    int n, i, key, found = 0;
    printf("Enter number of elements: ");
    scanf("%d", &n);
    int arr[n];
    printf("Enter %d elements:\n", n);
    for(i = 0; i < n; i++)
        scanf("%d", &arr[i]);
    printf("Enter element to search: ");
    scanf("%d", &key);
    for(i = 0; i < n; i++) {
        if(arr[i] == key) {
            printf("Element found at position %d\n", i + 1);
            found = 1;
            break;
        }
    }
    if(!found)
        printf("Element not found.\n");
}
```

The terminal below the editor shows the execution of the program:

```
abhaygupta@192 main.c % gcc main.c
abhaygupta@192 main.c % ./a.out
Enter number of elements: 5
Enter 5 elements:
1
2
3
4
5
Enter element to search: 3
Element found at position 3
abhaygupta@192 main.c %
```

At the bottom, status bar information includes: Line 29, Col 2, Spaces: 4, UTF-8, LF, () C, Mac, and Prettier.

The screenshot shows the Visual Studio Code interface with the following details:

- EXPLORER**: Shows the file structure with `main.c` selected.
- OPEN EDITORS**: Shows multiple files including `main.c`, `MAIN.C`, and `sample.txt`.
- CODE EDITOR**: Displays the `main.c` file content:

```
C main.c M X
C main.c > main()
3 int main() {
4     printf("Enter number of elements: ");
5     scanf("%d", &n);
6
7     int arr[n];
8     printf("Enter %d elements:\n", n);
9     for(i = 0; i < n; i++) {
10         scanf("%d", &arr[i]);
11
12         // Reverse in-place
13         for(i = 0; i < n / 2; i++) {
14             temp = arr[i];
15             arr[i] = arr[n - i - 1];
16             arr[n - i - 1] = temp;
17         }
18
19         printf("Reversed array:\n");
20         for(i = 0; i < n; i++)
21             printf("%d ", arr[i]);
22
23     }
24
25     return 0;
26 }
```

- TERMINAL**: Shows the terminal output of the program execution:

```
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS
zsh + ~ ... [ ] x
● abhaygupta@192 main.c % gcc main.c
● abhaygupta@192 main.c % ./a.out
Enter number of elements: 3
Enter 3 elements:
1
2
3
Reversed array:
3 2 1
◇ abhaygupta@192 main.c %
```

The screenshot shows a Visual Studio Code (VS Code) interface with the following details:

- EXPLORER**: Shows a file tree with the following structure:
 - OPEN EDITORS: main.c
 - MAIN.C: .vscode, main.dSYM, #include <stdio.h>, a.out, hello.c, main, sample.txt, tempCodeRunnerFile, Untitled-1
- EDITOR**: The main editor window displays the code for `main.c`. The code merges two arrays, `a` and `b`, into array `c`.

```
C main.c M X
C main.c > main()
3 int main() {
11     scanf("%d", &n1);
12
13     printf("Enter number of elements in second array: ");
14     scanf("%d", &n2);
15     int b[n2];
16     printf("Enter %d elements:\n", n2);
17     for(i = 0; i < n2; i++)
18         scanf("%d", &b[i]);
19
20     int c[n1 + n2];
21     for(i = 0; i < n1; i++)
22         c[i] = a[i];
23     for(j = 0; j < n2; j++)
24         c[n1 + j] = b[j];
25
26     printf("Merged array:\n");
27     for(i = 0; i < n1 + n2; i++)
28         printf("%d ", c[i]);
29
30     return 0;
31 }
```
- TERMINAL**: The terminal window shows the execution of the program and its output.

```
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS
+ -> abhaygupta@192 main.c % ./a.out
Enter number of elements in first array: 2
Enter 2 elements:
1
2
Enter number of elements in second array: 3
Enter 3 elements:
1
2
3
Merged array:
1 2 1 2 3
```
- SIDE BAR**: Includes icons for file operations like copy, paste, cut, and search.

The screenshot shows a Microsoft Visual Studio Code (VS Code) interface. The left sidebar displays the 'EXPLORER' view with a tree of files. The 'OPEN EDITORS' section shows several files, with 'main.c' being the active editor. The main area shows the code for 'main.c'. The terminal at the bottom shows the execution of the program.

Code Content:

```
C main.c M X
C main.c > main()
1 #include <stdio.h>
2
3 int main() {
4     long num;
5     int count[10] = {0}, digit, max = 0, most_digit;
6
7     printf("Enter an integer: ");
8     scanf("%ld", &num);
9
10    if (num < 0)
11        num = -num; // handle negative numbers
12
13    while (num > 0) {
14        digit = num % 10;
15        count[digit]++;
16        num /= 10;
17    }
18
19    for (int i = 0; i < 10; i++) {
20        if (count[i] > max) {
21            max = count[i];
22            most_digit = i;
23        }
24    }
25
26    printf("Digit %d occurs the most (%d times)\n", most_digit, max);
27    return 0;
```

Terminal Output:

```
abhaygupta@192 main.c % gcc main.c
abhaygupta@192 main.c % ./a.out
Enter an integer: 4
Digit 4 occurs the most (1 times)
abhaygupta@192 main.c % gcc main.c
abhaygupta@192 main.c % ./a.out
Enter an integer: 112233
Digit 1 occurs the most (2 times)
abhaygupta@192 main.c %
```

The screenshot shows a Microsoft Visual Studio Code (VS Code) interface. The left sidebar contains icons for file operations, search, and other development tools. The main area has tabs for 'EXPLORER', 'OPEN EDITORS', and 'MAIN.C'. The 'OPEN EDITORS' tab is active, showing a file named 'main.c'. The code editor displays the following C program:

```
C main.c M X
C main.c > main()
3 int main() {
6     printf("Enter number of elements (sorted): ");
7     scanf("%d", &n);
8
9     int arr[n];
10    printf("Enter %d sorted elements:\n", n);
11    for(int i = 0; i < n; i++)
12        scanf("%d", &arr[i]);
13
14    printf("Enter element to search: ");
15    scanf("%d", &key);
16
17    low = 0;
18    high = n - 1;
19
20    while (low <= high) {
21        mid = (low + high) / 2;
22
23        if (arr[mid] == key) {
24            printf("Element found at position %d\n", mid + 1);
25            found = 1;
26            break;
27        }
28        else if (arr[mid] < key)
29            low = mid + 1;
30        else
31            high = mid - 1;
}
}
}

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS
```

The terminal below the code editor shows the execution of the program:

```
abhaygupta@192 main.c % gcc main.c
abhaygupta@192 main.c % ./a.out
Enter number of elements (sorted): 3
Enter 3 sorted elements:
1
2
3
Enter element to search: 3
Element found at position 3
abhaygupta@192 main.c %
```

The screenshot shows a Microsoft Visual Studio Code (VS Code) interface. The left sidebar contains icons for Explorer, Open Editors, Search, Problems, and others. The 'OPEN EDITORS' section lists several files: 'main.c' (selected), 'MAIN.C', '.vscode', 'main.dSYM', '#include <stdio.h>', 'a.out', 'hello.c', 'main', 'sample.txt', 'tempCodeRunnerFile', and 'Untitled-1'. The main editor area displays a C program named 'main.c' with the following code:

```
C main.c M X
C main.c > main()
1 #include <stdio.h>
2
3 int main() {
4     int n, i, j, num;
5
6     printf("Enter number of elements: ");
7     scanf("%d", &n);
8
9     int arr[n + 1];
10
11    printf("Enter %d sorted elements:\n", n);
12    for(i = 0; i < n; i++)
13        scanf("%d", &arr[i]);
14
15    printf("Enter element to insert: ");
16    scanf("%d", &num);
17
18
19    for(i = n - 1; (i >= 0 && arr[i] > num); i--)
20        arr[i + 1] = arr[i];
21
22    arr[i + 1] = num;
23    n++;
24
25    printf("Array after insertion:\n");
26    for(i = 0; i < n; i++)
27        printf("%d ", arr[i]);
```

Below the editor, the 'TERMINAL' tab is active, showing the output of running the program:

```
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS
abhaygupta@192 main.c % gcc main.c
abhaygupta@192 main.c % ./a.out
Enter number of elements: 5
Enter 5 sorted elements:
1
2
4
5
6
Enter element to insert: 3
Array after insertion:
1 2 3 4 5 6
```

The screenshot shows a Microsoft Visual Studio Code (VS Code) interface. The main area displays a C language file named `main.c`. The code implements a function to insert an element into an array at a specified position. The terminal below shows the execution of the program, including user input for the number of elements, their values, the insertion position, and the inserted value.

```
C main.c M X
C main.c > main()
1 #include <stdio.h>
2
3 int main() {
4     int n, pos, num, i;
5
6     printf("Enter number of elements: ");
7     scanf("%d", &n);
8
9     int arr[n + 1];
10
11    printf("Enter %d elements:\n", n);
12    for(i = 0; i < n; i++)
13        scanf("%d", &arr[i]);
14
15    printf("Enter position to insert (1 to %d): ", n + 1);
16    scanf("%d", &pos);
17
18    printf("Enter element to insert: ");
19    scanf("%d", &num);
20
21
22    for(i = n; i >= pos; i--)
23        arr[i] = arr[i - 1];
24
25    arr[pos - 1] = num;
26
27    n++;
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

```
● abhaygupta@192 main.c % gcc main.c
● abhaygupta@192 main.c % ./a.out
Enter number of elements: 4
Enter 4 elements:
10
20
30
40
Enter position to insert (1 to 5): 2
Enter element to insert: 15
Array after insertion:
10 15 20 30 40
abhaygupta@192 main.c %
```

A screenshot of the Visual Studio Code (VS Code) interface. The main area shows a code editor with a C file named 'main.c'. The code implements an array deletion function. The terminal below shows the execution of the program, where the user enters 5 elements and then deletes the element at index 2.

```
#include <stdio.h>
int main() {
    int n, pos, i;
    printf("Enter number of elements: ");
    scanf("%d", &n);
    int arr[n];
    printf("Enter %d elements:\n", n);
    for(i = 0; i < n; i++)
        scanf("%d", &arr[i]);
    printf("Enter position to delete (1 to %d): ", n);
    scanf("%d", &pos);
    if(pos < 1 || pos > n) {
        printf("Invalid position!\n");
    } else {
        for(i = pos - 1; i < n - 1; i++)
            arr[i] = arr[i + 1];
        n--;
    }
    printf("Array after deletion:\n");
    for(i = 0; i < n; i++)
        printf("%d ", arr[i]);
}
```

The terminal output is:

```
abhaygupta@192 main.c % gcc main.c
abhaygupta@192 main.c % ./a.out
Enter number of elements: 5
Enter 5 elements:
1
2
3
4
5
Enter position to delete (1 to 5): 2
Array after deletion:
1 3 4 5
```

The screenshot shows a Visual Studio Code (VS Code) interface with the following details:

- EXPLORER**: Shows the file structure under **MAIN.C**, including **main.c**, **a.out**, **hello.c**, **main**, **C main.c** (the current file), **sample.txt**, **tempCodeRunnerFile**, and **Untitled-1**.
- OPEN EDITORS**: The **C main.c** editor is active, displaying the following C code:

```
#include <stdio.h>
int main() {
    int n, i;
    printf("Enter number of elements: ");
    scanf("%d", &n);

    int arr[n];
    printf("Enter %d elements:\n", n);
    for(i = 0; i < n; i++)
        scanf("%d", &arr[i]);

    int first, second;
    first = second = -99999;

    for(i = 0; i < n; i++) {
        if(arr[i] > first) {
            second = first;
            first = arr[i];
        }
        else if(arr[i] > second && arr[i] != first)
            second = arr[i];
    }

    if(second == -99999)
        printf("No second largest element (all elements equal)\n");
    else
        printf("Second largest element = %d\n");
}
```

- TERMINAL**: Displays the terminal output of the program execution:

- abhaygupta@192 ~ % gcc main.c
- abhaygupta@192 ~ % ./a.out
- Enter number of elements: 5
- Enter 5 elements:
10
20
30
4
50
- Second largest element = 30

- STATUS BAR**: Shows icons for file status (M), workspace status (U), and other system information.

The screenshot shows a Visual Studio Code (VS Code) interface with the following details:

- EXPLORER**: Shows the file structure:
 - OPEN EDITORS: main.c (selected)
 - MAIN.C: .vscode, main.dSYM, #include <stdio.h>, a.out, hello.c, main.c (selected), sample.txt, tempCodeRunnerFile, Untitled-1
- CODE EDITOR**: The main.c file contains C code for right array rotation. The code includes input validation and handling for negative rotations.
- TERMINAL**: The terminal shows the execution of the program:
 - gcc main.c
 - ./a.out
 - Enter number of elements: 5
 - Enter 5 elements:
1
2
3
4
5
 - Enter number of positions to rotate: 2
 - Array after right rotation:
4 5 1 2 3
- STATUS BAR**: Shows the current file is main.c, line 19, column 5, with 4 spaces, UTF-8 encoding, and Mac OS X system information.