

# UE24CS151B (LAB) : Problem Solving With C integrated with Lab Week-8 Solutions

Name: R. Arun Hariharan

SRN: PES2UG24AM126

Section: M

## Code 1:

```
#include <stdio.h>

int main() {

    int number;

    printf("Enter a number: ");

    scanf("%d", &number);

    if ((number % 3 == 0 || number % 7 == 0) && !(number % 3 == 0 && number % 7 == 0)) {

        printf("Acceptable\n");

    } else {

        printf("It is unacceptable, tell them it is unacceptable -Carlos Sainz\n");

    }

    return 0;

}
```

## Solution:

```
Problems  Output  Debug Console  Terminal  Ports

PS D:\Professional\Technical Projects\C> & 'c:\Users\arunh\.cursor\exte
kqq' '--stdout=Microsoft-MIEngine-Out-dq0zqi1p.ykx' '--stderr=Microsoft-
=mi'
Enter a number: 23
Not Acceptable
● PS D:\Professional\Technical Projects\C> & 'c:\Users\arunh\.cursor\exte
yfe' '--stdout=Microsoft-MIEngine-Out-5hs341wo.ztv' '--stderr=Microsoft-
=mi'
Enter a number: 28
Acceptable
● PS D:\Professional\Technical Projects\C> & 'c:\Users\arunh\.cursor\exte
tdw' '--stdout=Microsoft-MIEngine-Out-3kilzpj5.0jp' '--stderr=Microsoft-
=mi'
Enter a number: 21
Not Acceptable
○ PS D:\Professional\Technical Projects\C> □
```

## Code 2:

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

```
int main() {
```

```
    int start, end;
```

```
    printf("Enter a number: ");
```

```
    scanf("%d", &start);
```

```
    printf("Enter a number: ");
```

```
    scanf("%d", &end);
```

```
    if (start > end) {
```

```
        int temp = start;
```

```
        start = end;
```

```
        end = temp;
```

```
    }
```

```

for (int i = start; i <= end; i++) {

    if(i%13 == 0) {

        break;

    }

    if(i % 2 == 0) {

        printf("%d\n", i);

    }

}

return 0;

}

```

**Solution:**

```

PS D:\Professional\Technical Projects\C> & 'c:\Users\arunh...
sjw' '--stdout=Microsoft-MIEngine-Out-furggfdq.r51' '--stde
=mi'
Enter a number: 14
Enter a number: 28
14
16
18
20
22
24
PS D:\Professional\Technical Projects\C>

```

**Code 3:**

```

#include <stdio.h>

void second_largest(int arr[], int n) {

    int largest = arr[0];

    int second_largest = arr[0];

```

```

int largest_pos = 0;

int second_largest_pos = 0;

for (int i = 0; i < n; i++) {

    if (arr[i] > largest) {

        second_largest = largest;

        second_largest_pos = largest_pos;

        largest = arr[i];

        largest_pos = i;

    }

    else if (arr[i] > second_largest && arr[i] != largest) {

        second_largest = arr[i];

        second_largest_pos = i;

    }

}

printf("\nSecond largest element: %d\n", second_largest);

printf("Position of second largest element: %d\n", second_largest_pos+1);

}

int main() {

    int arr[100];

    int n;

    printf("Enter the number of elements in the array: ");

    scanf("%d", &n);

    for (int i = 0; i < n; i++) {

        printf("Enter element no. %d: ", i+1);

```

```

        scanf("%d", &arr[i]);

    }

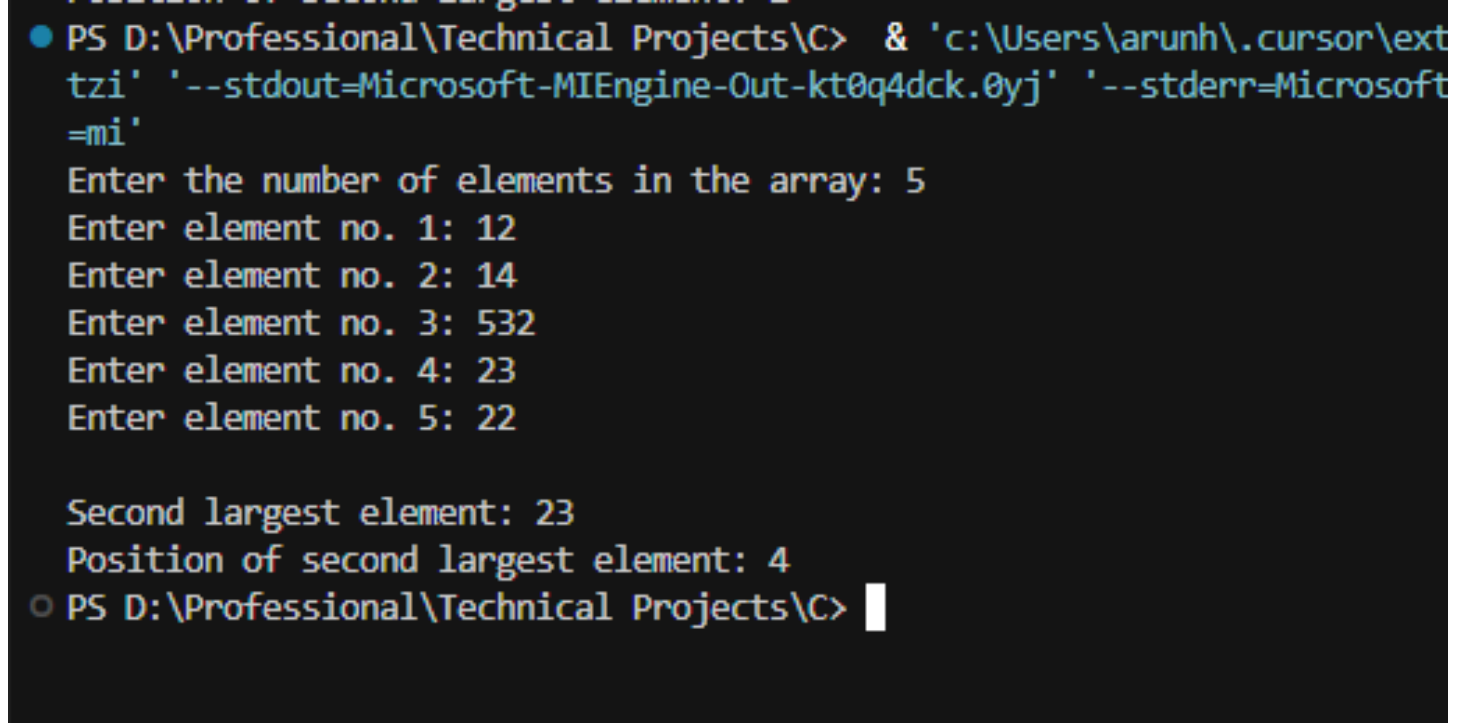
    second_largest(arr, n);

    return 0;

}

```

**Solution:**



```

● PS D:\Professional\Technical Projects\C> & 'c:\Users\arunh\.cursor\ext
tzi' '--stdout=Microsoft-MIEngine-Out-kt0q4dck.0yj' '--stderr=Microsoft
=mi'
Enter the number of elements in the array: 5
Enter element no. 1: 12
Enter element no. 2: 14
Enter element no. 3: 532
Enter element no. 4: 23
Enter element no. 5: 22

Second largest element: 23
Position of second largest element: 4
○ PS D:\Professional\Technical Projects\C>

```

**Code 4:**

```

#include <stdio.h>

void reverse_array(int *arr, int n) {

    int *start = arr;

    int *end = arr + n - 1;

    int temp;

    while (start < end) {

        temp = *start;

```

```

        *start = *end;

        *end = temp;

        start++;

        end--;

    }

}

```

```

int main() {

    int arr[100];

    int n;

    printf("Enter the number of elements in the array: ");

    scanf("%d", &n);

    for (int i = 0; i < n; i++) {

        printf("Enter element no. %d: ", i+1);

        scanf("%d", &arr[i]);

    }


    printf("\nArray before reversing:\n");

    for (int i = 0; i < n; i++) {

        printf("%d ", arr[i]);

    }


    reverse_array(arr, n);


    printf("\nArray after reversing:\n");

    for (int i = 0; i < n; i++) {

        printf("%d ", arr[i]);

    }

}

```

```
}  
  
printf("\n");  
  
return 0;  
  
}
```

**Solution:**

```
● Enter the number of elements in the array: 6  
Enter element no. 1: 12  
Enter element no. 2: 23  
Enter element no. 3: 43  
Enter element no. 4: 24  
Enter element no. 5: 56  
Enter element no. 6: 67  
  
Array before reversing:  
12 23 43 24 56 67  
Array after reversing:  
67 56 24 43 23 12  
○ PS D:\Professional\Technical Projects\C> |
```

**Code 5:**

```
#include <stdio.h>  
  
void printDigitInWord(int n) {  
    if (n < 0) {  
        printf("Negative ");  
        printDigitInWord(-n);  
        return;  
    }  
}
```

```
if (n < 10) {  
    switch(n) {  
        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;  
    }  
} else {  
    printDigitInWord(n / 10);  
    printf(" ");  
    printDigitInWord(n % 10);  
}  
}
```

```
int main() {  
    int num;  
  
    printf("Enter a number: ");  
    scanf("%d", &num);  
  
    printf("Number in words: ");  
    printDigitInWord(num);  
}
```

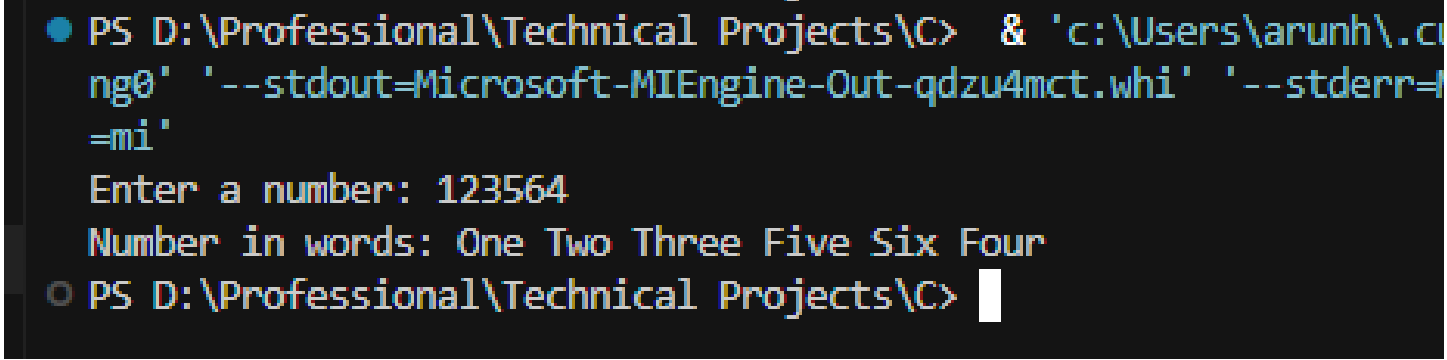


```
printf("\n");
```

```
return 0;
```

```
}
```

**Solution:**

A screenshot of a Windows command prompt window. The first line shows a command to run a program named 'mi' with specific output and error redirection. The second line shows the program's output, which is a prompt to enter a number. The third line shows the user's input '123564'. The fourth line shows the program's output, which is the number '123564' converted into words: 'One Two Three Five Six Four'. The fifth line shows the command prompt again, with a cursor at the end of the line.

```
● PS D:\Professional\Technical Projects\C> & 'c:\Users\arunh\.c  
ng0' '--stdout=Microsoft-MIEngine-Out-qdzu4mct.whi' '--stderr=  
=mi'  
Enter a number: 123564  
Number in words: One Two Three Five Six Four  
○ PS D:\Professional\Technical Projects\C> |
```