| S.No: 1 | Exp. Name: ***Write a C program to find the reverse of a given number*** | Date: 2023-04-12 |
|---|---|---|

**Aim:**

Design a C program which reverses the given number.

**Source Code:**

reverse.c

```
#include<stdio.h>
int main()
{
        int n,rem=0,rev=0;
        printf("");
        scanf("%d",&n);
        while(n>0)
        {
                rem=n%10;
                rev=rev*10+rem;
                n=n/10;
        }
        printf("Reversed number= %d",rev);
}
```

## Execution Results - All test cases have succeeded!

| Test Case - 1 |
|---|
| **User Output** |
| 456 |
| Reversed number= 654 |

| Test Case - 2 |
|---|
| **User Output** |
| 958745 |
| Reversed number= 547859 |

| S.No: 2 | Exp. Name: ***Write a C program to find second largest for the given numbers*** | **Date: 2023-04-18** |
|---|---|---|

**Aim:**

Design a C program which finds the `second maximum number` among the given one dimensional array of elements.

```
Sample Input and Output:Enter how many values you want to read : 6
Enter the value of a[0] : 45
Enter the value of a[1] : 24
Enter the value of a[2] : 23
Enter the value of a[3] : 65
Enter the value of a[4] : 78
Enter the value of a[5] : 42
The second largest element of the array = 65
```

Note:Do use the**printf()**function with a**newline**character (\n) at the end.

**Source Code:**

second_large.c


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```c
#include<stdio.h>
int main()
{
        int i,a[20],max1=0,max2=0,n;
        printf("Enter how many values you want to read : ");
        scanf("%d",&n);
        for(i=0;i<n;i++)
        {
                printf("Enter the value of a[%d] : ",i);
                scanf("%d",&a[i]);

        }
        for(i=0;i<n;i++)
        {
                if(max1<a[i])
                    {
                        max2=max1;
                        max1=a[i];
}
    else if(a[i]>max2&&a[i]<max1)
    {
        max2=a[i];
    }
        }
        printf("The second largest element of the array = %d\n",max2);
}
```

## Execution Results - All test cases have succeeded!

| Test Case - 1 |
| --- |
| **User Output** |
| Enter how many values you want to read : |
| 4 |
| Enter the value of a[0] : |
| 32 |
| Enter the value of a[1] : |
| 25 |
| Enter the value of a[2] : |
| 69 |

```
Enter the value of a[3] :
47
The second largest element of the array = 47
```

| S.No: 4 | Exp. Name: ***Design an algorithm and implement using C language the following exchanges*** | Date: 2023-04-12 |
|---|---|---|

**Aim:**

Design an algorithm and implement using C language the following exchanges **a** ← **b** ← **c** ← **d** ← **a** and print the result as shown in the example.

```
Sample Input and Output:
Enter values of a, b, c and d: 98 74 21 36
After swapping
a = 74
b = 21
c = 36
d = 98
```

**Source Code:**

exchange.c

```
#include<stdio.h>
main()
{
        int a,b,c,d,temp;
        printf("Enter values of a, b, c and d: ");
        scanf("%d %d %d %d",&a,&b,&c,&d);
        temp=a;
        a=b;
        b=c;
        c=d;
        d=temp;
        printf("After swapping\na = %d\nb = %d\nc = %d\nd = %d\n",a,b,c,d);
}
```

## Execution Results - All test cases have succeeded!

| Test Case - 1 |
|---|
| **User Output** |
| Enter values of a, b, c and d: |
| 1 2 3 4 |
| After swapping |
| a = 2 |
| b = 3 |
| c = 4 |
| d = 1 |

| Test Case - 2 |
|---|
| **User Output** |
| Enter values of a, b, c and d: |
| 98 74 21 36 |
| After swapping |
| a = 74 |

```
b = 21
c = 36
d = 98
```

**Aim:**

Write a program to **print** the given integer elements of an array (with max size 10) in reverse order.

At the time of execution, the program should print the message on the console as:
Enter size of the array :
For example, if the user gives the **input** as:

```
Enter size of the array : 3
```

Next, the program should **print** the message on the console as:

```
Enter array elements :
```

If the user gives the **input** as:

```
Enter array elements : 10 20 30
```

then the program should **print** the result as:

```
Array elements in reverse order : 30 20 10
```

[**Hint:** First read an integers from standard input into the array and then use a loop to iterate on that array in the reverse order (meaning starting from the last element till the first) to print the elements.]

**Note:** Do use the printf() function without a newline character (\n).

**Source Code:**

print.c

```
#include<stdio.h>
main()
{
        int k,a[100],n,b;
        printf("Enter size of the array : ");
        scanf("%d",&n);
        int size = a[n];
        printf("Enter array elements : ");
        for(k=0;k<n;k++)
        {
                scanf("%d",&a[k]);
        }
        printf("Array elements in reverse order : ");
        for(k=n-1;k>=0;k--)
        {
                printf("%d ",a[k]);
        }
        printf("\n");
        return 0;
}
```

## Execution Results - All test cases have succeeded!

| Test Case - 1 |
|---|
| **User Output** |
| Enter size of the array : |
| 3 |

| Enter array elements : |
| --- |
| 10 20 30 |
| Array elements in reverse order : 30 20 10 |

| Test Case - 2 |
| --- |
| **User Output** |
| Enter size of the array : |
| 6 |
| Enter array elements : |
| 11 88 66 22 33 44 |
| Array elements in reverse order : 44 33 22 66 88 11 |


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