

Tutorial 6

Name: Aditi Singh

Batch: C1_1

Roll no.: 16010123020

Q1

```
#include <stdio.h>

int add(a,b) {
    int sum=a+b;
    return sum;
}

float multiply(float a,float b){
    float pro=a*b;
    return pro;
}

char displaychar(a){
    printf("%c",a);
    return 0;
}

void main() {
    printf("Name: Aditi Singh, Batch: C1_1, Roll no. 16010123020 \n\n");
    int n1=4;
    int n2=5;

    float n3=5.7;
    float n4=6.2;

    char a1='b';

    printf("Sum is: %d \n",add(n1,n2));
    printf("Product is: %f \n",multiply(n3,n4));
    displaychar(a1);

    return 0;
}
```

```
Name: Aditi Singh, Batch: C1_1, Roll no. 16010123020
Sum is: 9
Product is: 35.339996
b
Process returned 0 (0x0)   execution time : 0.367 s
Press any key to continue.
```

Q2

```
#include <stdio.h>

int sumn(int n) {
    if (n!=0){
        return n+sumn(n-1);
    }
    else{
        return n;
    }
}

void main() {
    int n1;
    printf("Name: Aditi Singh, Batch: C1_1, Roll no. 16010123020
\n\n");
    printf("Enter number till which sum: ");
    scanf("%d",&n1);
    printf("Sum of Natural numbers is: %d \n",sumn(n1));

    return 0;
}
```

"C:\Users\Admin\Documents\AS C1_1\Module 4\Q2.exe"

```
Name: Aditi Singh, Batch: C1_1, Roll no. 16010123020
Enter number till which sum: 12
Sum of Natural numbers is: 78

Process returned 31 (0x1F)   execution time : 4.732 s
Press any key to continue.
```

"C:\Users\Admin\Documents\AS C1_1\Module 4\Q2.exe"

```
Name: Aditi Singh, Batch: C1_1, Roll no. 16010123020
Enter number till which sum: 5
Sum of Natural numbers is: 15

Process returned 31 (0x1F)   execution time : 1.794 s
Press any key to continue.
```

"C:\Users\Admin\Documents\AS C1_1\Module 4\Q2.exe"

```
Name: Aditi Singh, Batch: C1_1, Roll no. 16010123020
Enter number till which sum: 24
Sum of Natural numbers is: 300


Process returned 32 (0x20)   execution time : 3.784 s
Press any key to continue.
```

Q3

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

```
int factorial(int n) {
    if (n!=1){
        return n*factorial(n-1);
    }
    else{
        return n;
    }
}
```

```
void main() {  
    int n1;  
    printf("Name: Aditi Singh, Batch: C1_1, Roll no. 16010123020  
\n\n");  
    printf("Enter number for Factorial: ");  
    scanf("%d",&n1);  
    printf("Factorial of %d is: %d \n",n1,factorial(n1));  
  
    return 0;  
}
```

 "C:\Users\Admin\Documents\AS C1_1\Module 4\Q3.exe"

Name: Aditi Singh, Batch: C1_1, Roll no. 16010123020

Enter number for Factorial: 5

Factorial of 5 is: 120

Process returned 24 (0x18) execution time : 2.173 s

Press any key to continue.

```
"C:\Users\Admin\Documents\AS C1_1\Module 4\Q3.exe"
Name: Aditi Singh, Batch: C1_1, Roll no. 16010123020
Enter number for Factorial: 9
Factorial of 9 is: 362880
Process returned 27 (0x1B)   execution time : 2.624 s
Press any key to continue.
```

```
"C:\Users\Admin\Documents\AS C1_1\Module 4\Q3.exe"
Name: Aditi Singh, Batch: C1_1, Roll no. 16010123020
Enter number for Factorial: 6
Factorial of 6 is: 720
Process returned 24 (0x18)   execution time : 2.080 s
Press any key to continue.
```

Q4

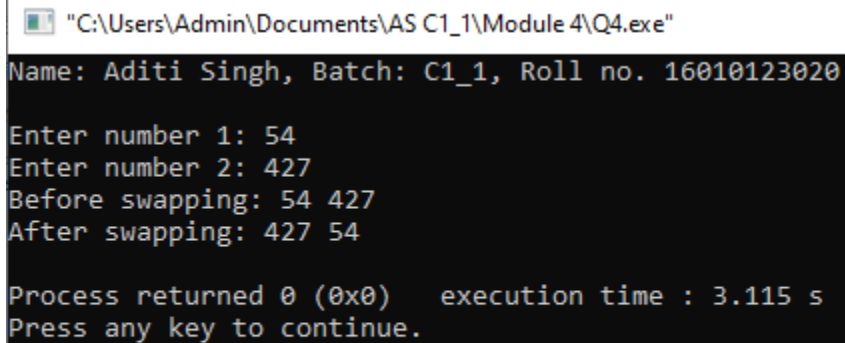
```
#include <stdio.h>
```

```
int swap(n1,n2) {
    int temp=n1;
    n1=n2;
    n2=temp;
    printf("After swapping: %d %d \n",n1,n2);
    return 0;
}
```

```
void main() {
    int n1,n2;
    printf("Name: Aditi Singh, Batch: C1_1, Roll no. 16010123020\n\n");
    printf("Enter number 1: ");
    scanf("%d",&n1);
```

```
    printf("Enter number 2: ");
    scanf("%d",&n2);
    printf("Before swapping: %d %d \n",n1,n2);
    swap(n1,n2);

    return 0;
}
```

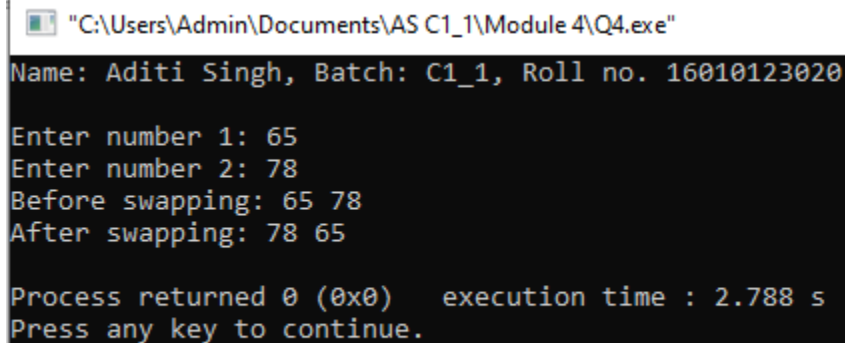


"C:\Users\Admin\Documents\AS C1_1\Module 4\Q4.exe"

Name: Aditi Singh, Batch: C1_1, Roll no. 16010123020

Enter number 1: 54
Enter number 2: 427
Before swapping: 54 427
After swapping: 427 54

Process returned 0 (0x0) execution time : 3.115 s
Press any key to continue.

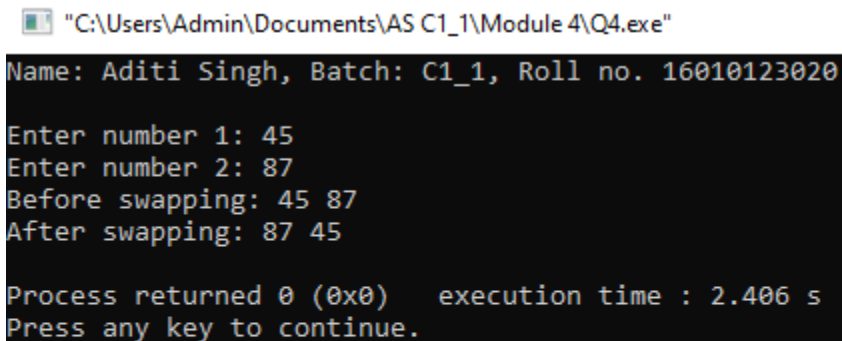


"C:\Users\Admin\Documents\AS C1_1\Module 4\Q4.exe"

Name: Aditi Singh, Batch: C1_1, Roll no. 16010123020

Enter number 1: 65
Enter number 2: 78
Before swapping: 65 78
After swapping: 78 65

Process returned 0 (0x0) execution time : 2.788 s
Press any key to continue.



"C:\Users\Admin\Documents\AS C1_1\Module 4\Q4.exe"

Name: Aditi Singh, Batch: C1_1, Roll no. 16010123020

Enter number 1: 45
Enter number 2: 87
Before swapping: 45 87
After swapping: 87 45

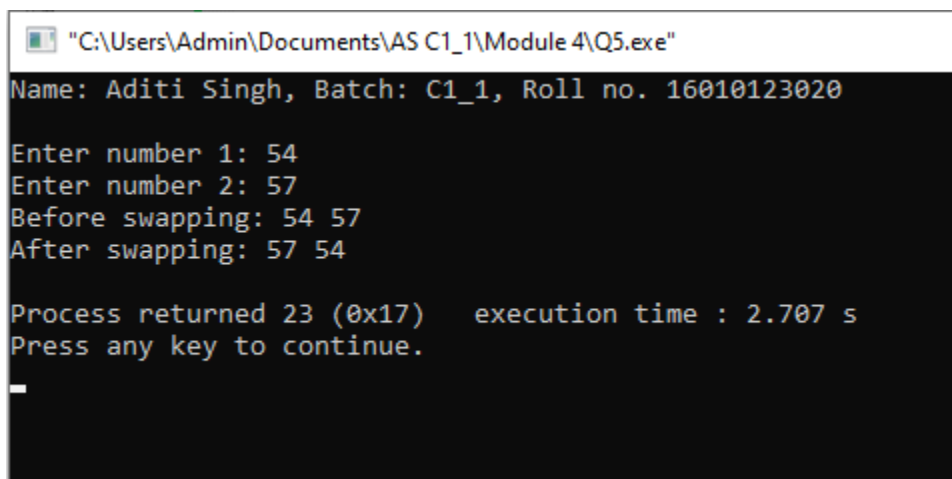
Process returned 0 (0x0) execution time : 2.406 s
Press any key to continue.

Q5

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

```
int swap(int *a,int *b) {  
    int temp=*a;  
    *a=*b;  
    *b=temp;  
    return 0;  
}
```

```
void main() {  
    int n1,n2;  
    printf("Name: Aditi Singh, Batch: C1_1, Roll no. 16010123020  
\n\n");  
    printf("Enter number 1: ");  
    scanf("%d",&n1);  
    printf("Enter number 2: ");  
    scanf("%d",&n2);  
    printf("Before swapping: %d %d \n",n1,n2);  
    swap(&n1,&n2);  
    printf("After swapping: %d %d \n",n1,n2);  
  
    return 0;  
}
```



```
"C:\Users\Admin\Documents\AS C1_1\Module 4\Q5.exe"  
Name: Aditi Singh, Batch: C1_1, Roll no. 16010123020  
  
Enter number 1: 54  
Enter number 2: 57  
Before swapping: 54 57  
After swapping: 57 54  
  
Process returned 23 (0x17)   execution time : 2.707 s  
Press any key to continue.  
_
```

```
"C:\Users\Admin\Documents\AS C1_1\Module 4\Q4.exe"
Name: Aditi Singh, Batch: C1_1, Roll no. 16010123020

Enter number 1: 54
Enter number 2: 427
Before swapping: 54 427
After swapping: 427 54

Process returned 0 (0x0)   execution time : 3.115 s
Press any key to continue.
```

```
"C:\Users\Admin\Documents\AS C1_1\Module 4\Q4.exe"
Name: Aditi Singh, Batch: C1_1, Roll no. 16010123020

Enter number 1: 45
Enter number 2: 87
Before swapping: 45 87
After swapping: 87 45

Process returned 0 (0x0)   execution time : 2.406 s
Press any key to continue.
```

Q6

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

```
int kint(int arr[], int length, int k) {
    int count = 0;
    for (int i = 0; i < length; i++) {
        if (arr[i] >= 0 && arr[i] % 2 == 0) {
            count++;
            if (count == k) {
                return arr[i];
            }
        }
    }
    return -1;
}
```

```
int main() {
```



```

    int length, k;
printf("Name: Aditi Singh, Batch: C1_1, Roll no. 16010123020 \n\n");

printf("Enter the length of the arr: ");
scanf("%d", &length);

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

printf("Enter the value of k: ");
scanf("%d", &k);

int result = kint(arr, length, k);
if (result != -1) {
    printf("The occurrence %d of an even integer is: %d\n", k,
result);
} else {
    printf("There is no occurrence %d of an even integer.\n", k);
}

return 0;
}

```

Name: Aditi Singh, Batch: C1_1, Roll no. 16010123020

Enter the length of the arr: 5

Enter the elements of the arr:

1

2

3

4

5

Enter the value of k: 1

The occurrence 1 of an even integer is: 2

Name: Aditi Singh, Batch: C1_1, Roll no. 16010123020

Enter the length of the arr: 6

Enter the elements of the arr:

3

6

4

2

6

1

Enter the value of k: 3

The occurrence 3 of an even integer is: 2

Name: Aditi Singh, Batch: C1_1, Roll no. 16010123020

Enter the length of the arr: 4

Enter the elements of the arr:

9

7

5

3

Enter the value of k: 2

There is no occurrence 2 of an even integer.

Q7

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

```
void decimalToBase(int decimalNumber, int base) {  
    int convertedNumber[100], i = 0;  
    while (decimalNumber > 0) {  
        convertedNumber[i++] = decimalNumber % base;  
        decimalNumber /= base;  
    }  
    printf("Equivalent number in base %d: ", base);
```

```

        for (int j = i - 1; j >= 0; j--) {
            printf("%d", convertedNumber[j]);
        }
        printf("\n");
    }
}

int main() {
    int decimalNumber, base;
    printf("Name: Aditi Singh, Batch: C1_1, Roll no. 16010123020 \n\n");
    printf("\nEnter a decimal number: ");
    scanf("%d", &decimalNumber);
    printf("Enter the base of the number system: ");
    scanf("%d", &base);
    decimalToBase(decimalNumber, base);
    return 0;
}

```

Name: Aditi Singh, Batch: C1_1, Roll no. 16010123020

Enter a decimal number: 20
 Enter the base of the number system: 3
 Equivalent number in base 3: 202

Run

5s on 23:51:45, 02/21 ✓

Name: Aditi Singh, Batch: C1_1, Roll no. 16010123020

Enter a decimal number: 23
 Enter the base of the number system: 4
 Equivalent number in base 4: 113

Name: Aditi Singh, Batch: C1_1, Roll no. 16010123020

Enter a decimal number: 20
 Enter the base of the number system: 3
 Equivalent number in base 3: 202