Tutorial 6

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

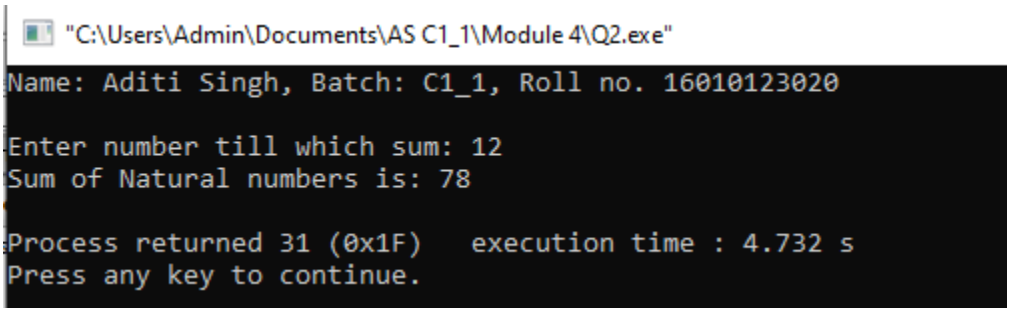
Q1

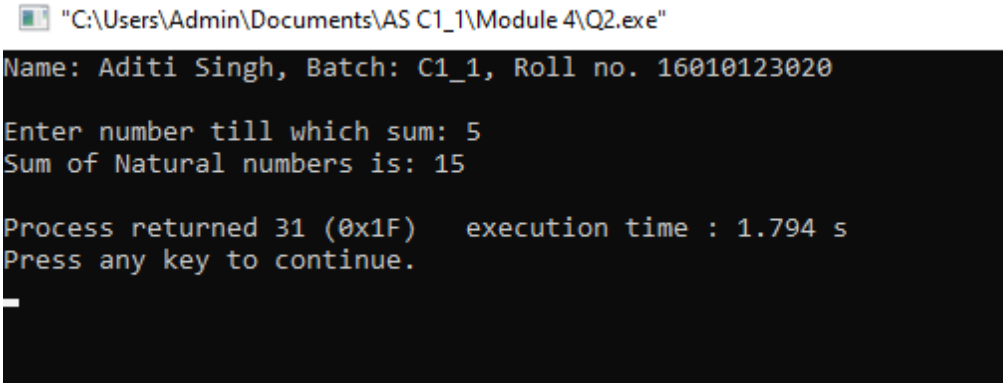
```
#include <stdio.h>

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;
}
```

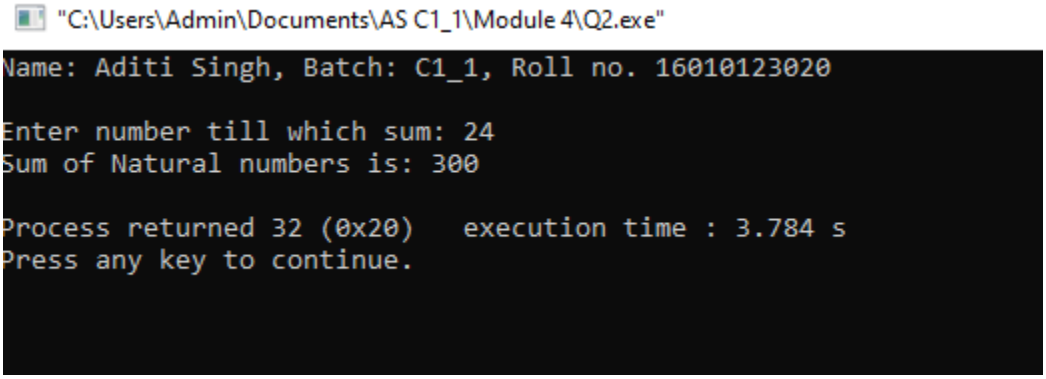
```
Name: Aditi Singh, Batch: C1_1, Roll no. 16010123020

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;
}
```



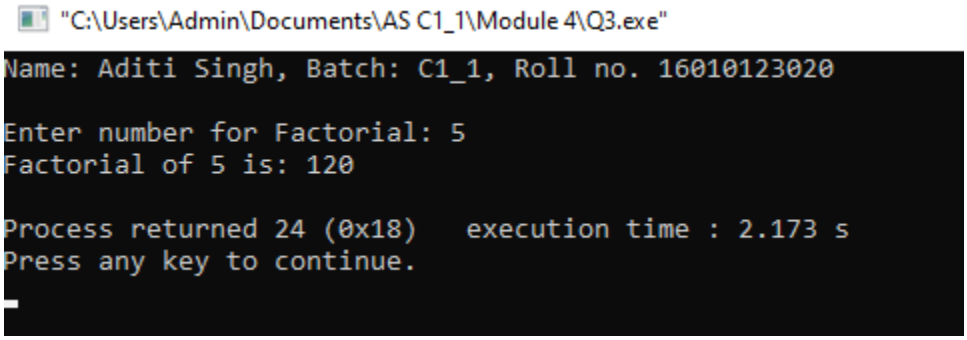


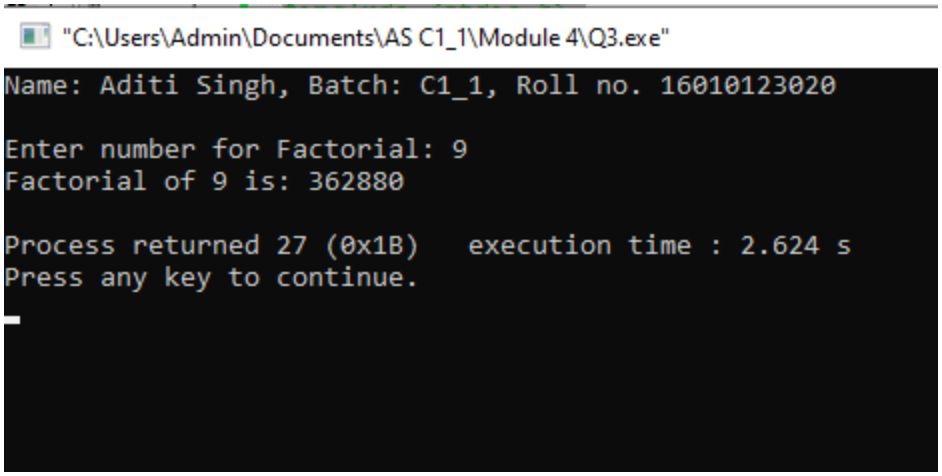


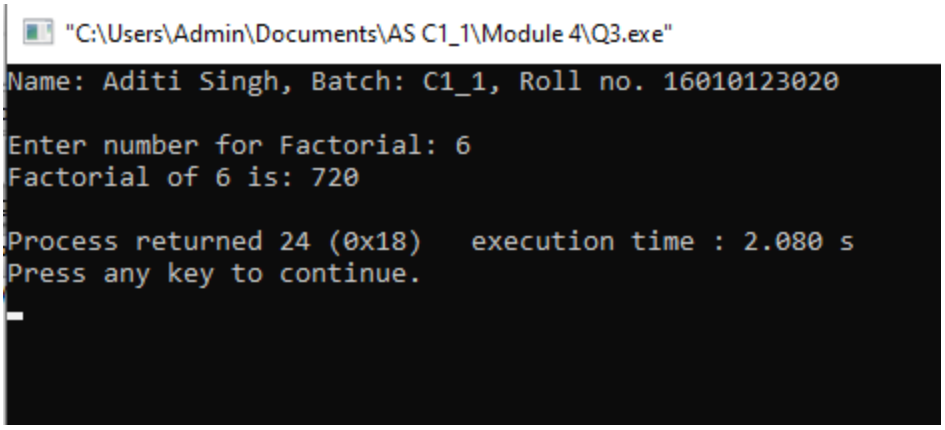
Q3

```
#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;
}
```



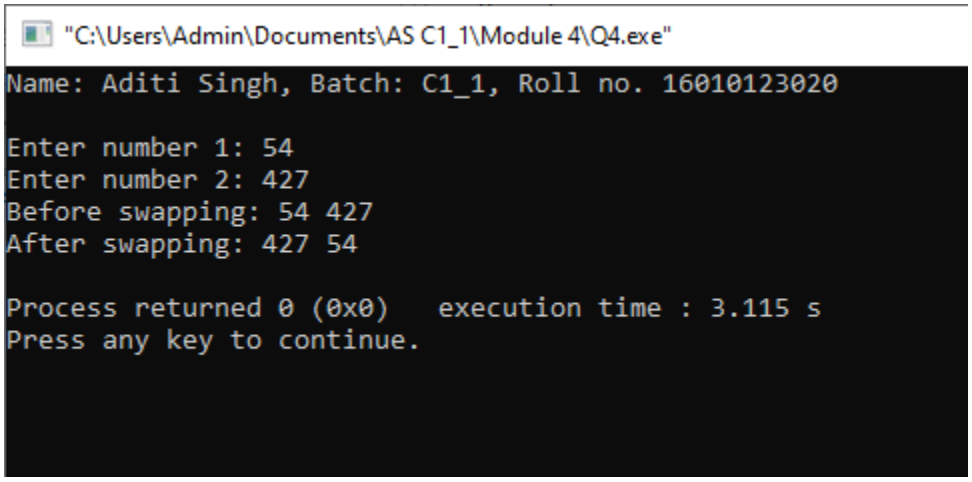


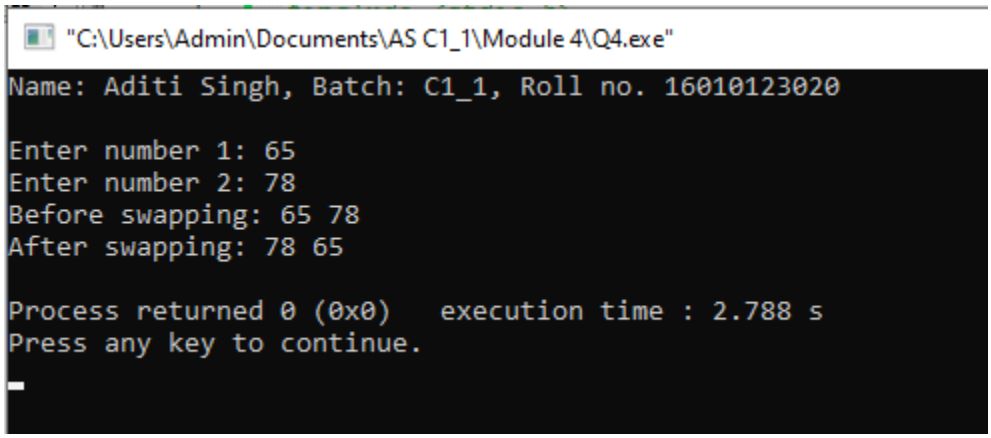


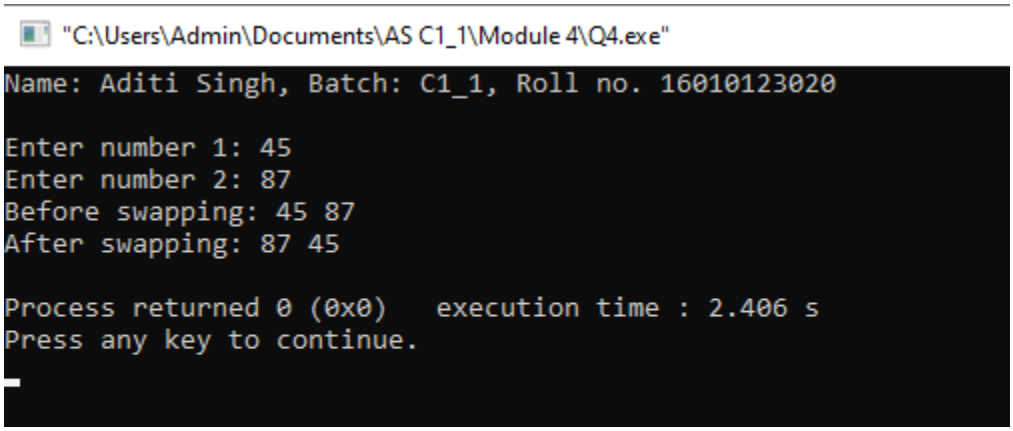
Q4

```
#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;
}
```

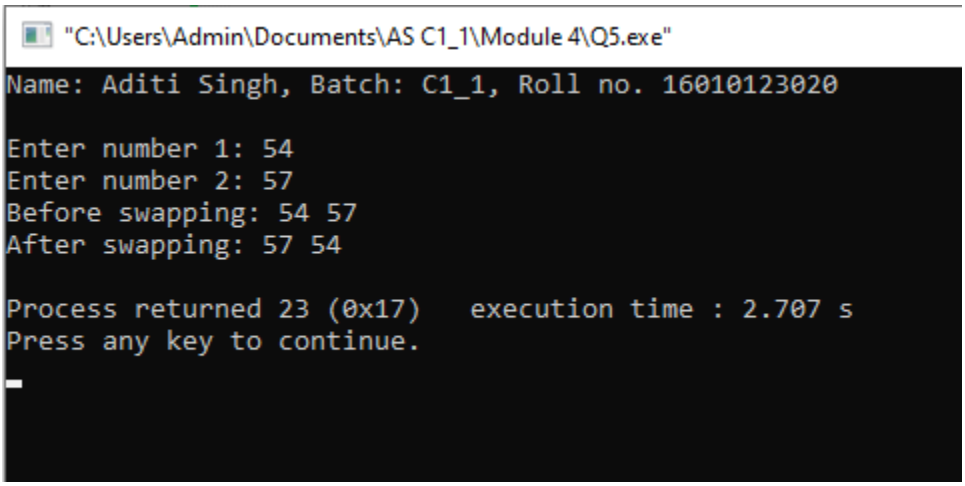


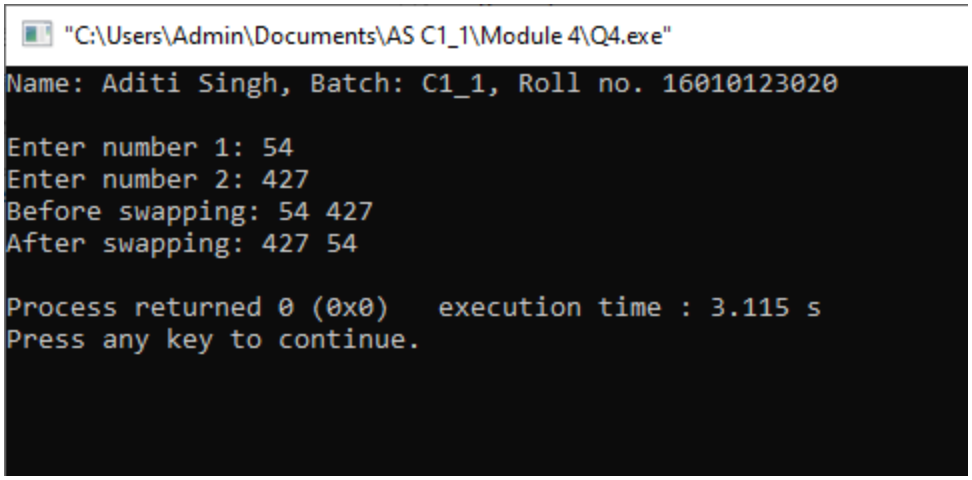


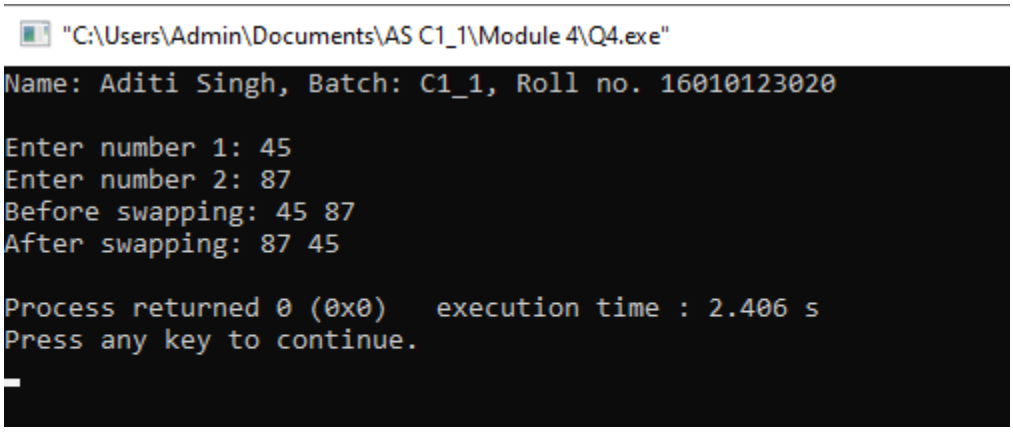


Q5

```
#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;
}
```







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
```

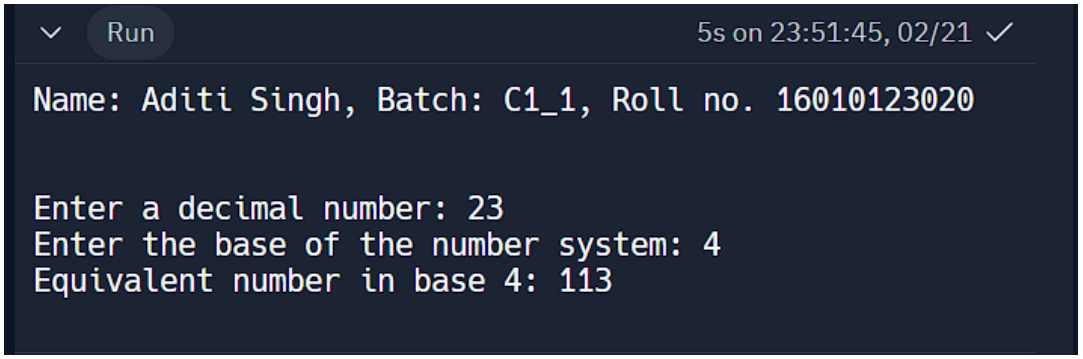
```
Name: Aditi Singh, Batch: C1_1, Roll no. 16010123020

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
```




```
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
```