Tutorial 2

Q1

```
#include<stdio.h>
int main(){
printf("Aaryan Sharma\n");
printf("16010123012\n");

int n,x;
int sum=0;
printf("Enter the number : ");
scanf("%d",&n);

while (n>0)
{
   x=n%10;
   sum=sum+x;
   n=n/10;
}
   printf("The addition of the digits is %d",sum);

   return 0;
}
```

```
Aaryan Sharma
16010123012
Enter the number : 1234567890
The addition of the digits is 45
Process returned 0 (0x0)   execution time : 9.507 s
Press any key to continue.
```

```
Aaryan Sharma
16010123012
Enter the number : 382953
The addition of the digits is 30
Process returned 0 (0x0)   execution time : 1.671 s
```

```
Aaryan Sharma
16010123012
Enter the number : 436
The addition of the digits is 13
Process returned 0 (0x0)   execution time : 5.835 s
```

Q2

```
#include<stdio.h>
int main(){
printf("Aaryan Sharma\n");
printf("16010123012\n");

int n,x=0;
printf("Enter value for n : ");
scanf("%d",&n);

while(x<n)
{
   if(x%2==0)
   {
      printf("Even numbers are : %d\n",x);
   }
   x++;
}
return 0;
}
```

```
Aaryan Sharma
16010123012
Enter value for n : 9
Even numbers are : 0
Even numbers are : 2
Even numbers are : 4
Even numbers are : 6
Even numbers are : 8

Process returned 0 (0x0)   execution time : 1.042 s
```

```
Aaryan Sharma
16010123012
Enter value for n : 33
Even numbers are : 0
Even numbers are : 2
Even numbers are : 4
Even numbers are : 6
Even numbers are : 8
Even numbers are : 10
Even numbers are : 12
Even numbers are : 14
Even numbers are : 16
Even numbers are : 18
Even numbers are : 20
Even numbers are : 22
Even numbers are : 24
Even numbers are : 26
Even numbers are : 28
Even numbers are : 30
Even numbers are : 32

Process returned 0 (0x0)   execution time : 8.958 s
```

Q3

```
#include<stdio.h>

int main(){

printf("Aaryan Sharma\n");

printf("16010123012\n");


int n,x=0;

printf("Enter value for n : ");
```

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


for(; x<=n; x++ )
{
   if(x%2==0)
   {
      printf("Even numbers are : %d\n",x);
   }
}
return 0;
}
```

```
Aaryan Sharma
16010123012
Enter value for n : 05
Even numbers are : 0
Even numbers are : 2
Even numbers are : 4

Process returned 0 (0x0)   execution time : 9.848 s
```

```
Aaryan Sharma
16010123012
Enter value for n : 10
Even numbers are : 0
Even numbers are : 2
Even numbers are : 4
Even numbers are : 6
Even numbers are : 8
Even numbers are : 10

Process returned 0 (0x0)   execution time : 3.657 s
```

Q4

```
#include<stdio.h>
int main(){
printf("Aaryan Sharma\n");
printf("16010123012\n");
```

```
int n,x=1,y=1;
printf("Enter a number : ");
scanf("%d",&n);

do
{
   x=x*y;
   y=y+1;
}
while(y<=n);
{
   printf("The factorial of %d is : %d",n,x);
}
return 0;
}
```

```
Aaryan Sharma
16010123012
Enter a number : 5
The factorial of 5 is : 120
Process returned 0 (0x0)   execution time : 2.065 s
```

```
Aaryan Sharma
16010123012
Enter a number : 10
The factorial of 10 is : 3628800
Process returned 0 (0x0)   execution time : 1.445 s
```

```
Aaryan Sharma
16010123012
Enter a number : 3
The factorial of 3 is : 6
Process returned 0 (0x0)   execution time : 3.940 s
```

Q5

```
#include<stdio.h>
int main(){
printf("Aaryan Sharma\n");
printf("16010123012\n");

int x=0,y=1,z,i=1;
int n;
printf("Enter number of terms of fibonacci : ");
scanf("%d",&n);
printf("Fibonacci series up to %d terms : ", n);

while(i<=n)
{
   printf("%d,",x);
   z=x+y;
   x=y;
   y=z;
   i=i+1;
}
return 0;
}
```

```
Aaryan Sharma
16010123012
Enter number of terms of fibonacci : 3
Fibonacci series up to 3 terms : 0,1,1,
Process returned 0 (0x0)   execution time : 2.176 s
```

```
Aaryan Sharma
16010123012
Enter number of terms of fibonacci : 9
Fibonacci series up to 9 terms : 0,1,1,2,3,5,8,13,21
Process returned 0 (0x0)   execution time : 2.006 s
```

```
Aaryan Sharma
16010123012
Enter number of terms of fibonacci : 30
Fibonacci series up to 30 terms : 0,1,1,2,3,5,8,13,21,34,55,89,144,233,377,610,987,1597,2584,4181,6765,10946,17711,28657
,46368,75025,121393,196418,317811,514229,
Process returned 0 (0x0)   execution time : 1.232 s
```

Q6

```
#include<stdio.h>
int main(){
printf("Aaryan Sharma\n");
printf("16010123012\n");

int x=0,y=1,z;
int n,i;
printf("Enter number of terms of fibonacci : ");
scanf("%d",&n);
printf("Fibonacci series up to %d terms :", n);

for(; i<n; i++)
{
   printf("%d,",x );
   z=x+y;
   x=y;
   y=z;
}
   return 0;
}
```

```
Aaryan Sharma
16010123012
Enter number of terms of fibonacci : 8
Fibonacci series up to 8 terms :0,1,1,2,3,5,8,13,
Process returned 0 (0x0)   execution time : 3.069 s
```

```
Aaryan Sharma
16010123012
Enter number of terms of fibonacci : 16
Fibonacci series up to 16 terms :0,1,1,2,3,5,8,13,21,34,55,89,144,233,377,610
Process returned 0 (0x0)   execution time : 2.045 s
```

Q7

```
#include<stdio.h>
int main() {
   printf("Name- Aarush Jain\n");
   printf("Batch-C1_1\n");
   printf("Roll no.-16010123006\n");

   int r, c;
   printf("Enter value of r for the number of rows and c for the number of columns: ");
   scanf("%d %d", &r, &c);

   int a[r][c],b[r][c],resultm[r][c];
   int i, j;

   printf("Enter values for row and column for 1st matrix:\n");

   for (i = 0; i < r; i++) {
      for (j = 0; j < c; j++) {
         printf("Enter element at position (%d, %d): ", i + 1, j + 1);
         scanf("%d", &a[i][j]);
      }
   }

   printf("Entered Matrix:\n");

   for (i = 0; i < r; i++) {
      for (j = 0; j < c; j++) {
         printf("%d\t", a[i][j]);
      }
```

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

    printf("Enter values for row and column for 2nd matrix:\n");

    for (i = 0; i < r; i++) {
        for (j = 0; j < c; j++) {
            printf("Enter element at position (%d, %d): ", i + 1, j + 1);
            scanf("%d", &b[i][j]);
        }
    }

    printf("Entered Matrix:\n");

    for (i = 0; i < r; i++) {
        for (j = 0; j < c; j++) {
            printf("%d\t", b[i][j]);
        }
        printf("\n");
    }
for (i = 0; i < r; i++) {
        for (j = 0; j < c; j++) {
            resultm[i][j]=a[i][j]+b[i][j];

        }
}
printf("\n Sum of matrics\n");

for( i=0;i<r;i++){
```

```
    for(j=0;j<c;j++)
    {
        printf("%d \t",resultm[i][j]);
    }
    printf("\n");
}
    return 0;
}
```

```
Name- Aaryan Sharma
16010123012
Enter value of r for the number of rows and c for the number of columns: 2
2
Enter values for row and column for 1st matrix:
Enter element at position (1, 1): 1
Enter element at position (1, 2): 2
Enter element at position (2, 1): 3
Enter element at position (2, 2): 4
Entered Matrix:
1       2
3       4
Enter values for row and column for 2nd matrix:
Enter element at position (1, 1): 5
Enter element at position (1, 2): 6
Enter element at position (2, 1): 7
Enter element at position (2, 2): 8
Entered Matrix:
5       6
7       8

 Sum of matrics
6       8
10      12

Process returned 0 (0x0)   execution time : 8.498 s
```

```
Name- Aaryan Sharma
16010123012
Enter value of r for the number of rows and c for the number of columns: 2
3
Enter values for row and column for 1st matrix:
Enter element at position (1, 1): 3
Enter element at position (1, 2): 6
Enter element at position (1, 3): 1
Enter element at position (2, 1): 9
Enter element at position (2, 2): 3
Enter element at position (2, 3): 7
Entered Matrix:
3       6       1
9       3       7
Enter values for row and column for 2nd matrix:
Enter element at position (1, 1): 2
Enter element at position (1, 2): 8
Enter element at position (1, 3): 9
Enter element at position (2, 1): 5
Enter element at position (2, 2): 1
Enter element at position (2, 3): 2
Entered Matrix:
2       8       9
5       1       2

 Sum of matrics
5       14      10
14      4       9

Process returned 0 (0x0)   execution time : 17.808 s
```

```
Name- Aaryan Sharma
16010123012
Enter value of r for the number of rows and c for the number of columns: 3
3
Enter values for row and column for 1st matrix:
Enter element at position (1, 1): 1
Enter element at position (1, 2): 2
Enter element at position (1, 3): 3
Enter element at position (2, 1): 4
Enter element at position (2, 2): 5
Enter element at position (2, 3): 6
Enter element at position (3, 1): 7
Enter element at position (3, 2): 8
Enter element at position (3, 3): 9
Entered Matrix:
1       2       3
4       5       6
7       8       9
Enter values for row and column for 2nd matrix:
Enter element at position (1, 1): 9
Enter element at position (1, 2): 8
Enter element at position (1, 3): 7
Enter element at position (2, 1): 6
Enter element at position (2, 2): 5
Enter element at position (2, 3): 4
Enter element at position (3, 1): 3
Enter element at position (3, 2): 2
Enter element at position (3, 3): 1
Entered Matrix:
9       8       7
6       5       4
3       2       1

 Sum of matrics
10      10      10
10      10      10
10      10      10

Process returned 0 (0x0)   execution time : 16.652 s
```