

TUT 6

Q1

```
#include<stdio.h>

int addition(int n1,int n2){

    int s;

    s=n1+n2;

    return s;

}

float multiplication(float n3,float n4){

    float m;

    m=n3*n4;

    return m;

}

char letter(char x){

    return x;

}

void main(){

    printf("Aaryan Sharma\n");

    printf("16010123012\n");


    int a,b,sum;

    printf("Enter integers : ");

    scanf("%d %d",&a,&b);

    sum=addition(a,b);

    printf("Addition is : %d \n",sum);


    float c,d,multi;

    printf("Enter float numbers : ");

    scanf("%f %f",&c,&d);

    multi=multiplication(c,d);

    printf("Multiplication is : %f \n",multi);
```

```

char ch;

printf("Enter character : ");

scanf("%ch",&ch);

printf("Character is : %c \n",ch);
}

```

```

Aaryan Sharma
16010123012
Enter integers : 4 5
Addition is : 9
Enter float numbers : 6.9 3.6
Multiplication is : 24.840000
Enter character : a
Character is : a

Process returned 18 (0x12)    execution time : 15.188 s

```

```

Aaryan Sharma
16010123012
Enter integers : 323 5
Addition is : 328
Enter float numbers : 4.332 6.888
Multiplication is : 29.838814
Enter character : b
Character is : b

Process returned 18 (0x12)    execution time : 14.426 s

```

Q2

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

```
int sum(int n){
```

```
    if(n!=0){
```

```
        return n+sum(n-1);
```

```
    }else{
```

```
        return n;
```

```
    }
```

```
}
```

```

void main(){

    printf("Aaryan Sharma\n");

    printf("16010123012\n");


    int x;

    printf("Enter number : ");

    scanf("%d",&x);

    printf("Sum : %d",sum(x));

}

```

```

Aaryan Sharma
16010123012
Enter number : 9
Sum : 45
Process returned 8 (0x8)    execution time : 1.225 s

```

```

Aaryan Sharma
16010123012
Enter number : 100
Sum : 5050
Process returned 10 (0xA)   execution time : 1.942 s

```

Q3

```

#include<stdio.h>

int factorial(int n){

    if(n==0 || n==1){

        return 1;

    }else{

        return n*factorial(n-1);

    }

}

void main(){

    printf("Aaryan Sharma\n");

    printf("16010123012\n");

```

```

int x;

printf("Enter number : ");

scanf("%d",&x);

printf("Factorial is : %d",factorial(x));

}

```

```

Aaryan Sharma
16010123012
Enter number : 0
Factorial is : 1
Process returned 16 (0x10)    execution time : 1.524 s
Aaryan Sharma
16010123012
Enter number : 5
Factorial is : 120
Process returned 18 (0x12)    execution time : 0.950 s

```

Q4

```

#include<stdio.h>

int swap(int a,int b){

    int x;

    x=a;

    a=b;

    b=x;

    printf("Swapped : %d %d\n",a,b);

}

void main(){

    printf("Aaryan Sharma\n");

    printf("16010123012\n");

    int y,z;

    printf("Enter numbers : ");

    scanf("%d %d",&y,&z);

    swap(y,z);

```

```
}
```

```
Aaryan Sharma
16010123012
Enter numbers : 4 5
Swapped : 5 4

Process returned 14 (0xE)   execution time : 2.816 s

Aaryan Sharma
16010123012
Enter numbers : 66 3
Swapped : 3 66

Process returned 15 (0xF)   execution time : 2.800 s
```

Q5

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

```
int swap(int *a, int *b) {
```

```
    int x;
```

```
    x = *a;
```

```
    *a = *b;
```

```
    *b = x;
```

```
    printf("Swapped : %d %d\n", *a, *b);
```

```
}
```

```
int main() {
```

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

```
    printf("16010123012\n");
```

```
    int y, z;
```

```
    printf("Enter numbers : ");
```

```
    scanf("%d %d", &y, &z);
```

```
    swap(&y, &z);
```

```
    return 0;
}
```

```
Aaryan Sharma
16010123012
Enter numbers : 6 5
Swapped : 5 6

Process returned 0 (0x0)    execution time : 2.041 s
```

```
Aaryan Sharma
16010123012
Enter numbers : 766 23
Swapped : 23 766

Process returned 0 (0x0)    execution time : 3.137 s
```

Q6

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

```
void convert(int a, int b) {
```

```
    int q=a;
```

```
    int r;
```

```
    int remainders[100];
```

```
    int i=0;
```

```
    printf("Equivalent number in base %d: ", b);
```

```
    while (q!=0) {
```

```
        r=q%b;
```

```
        q=q/b;
```

```
        remainders[i++]=r;
```

```
    }
```

```
    if (i==0) {
```

```
        printf("0");
```

```
    } else {
```

```

    for (int j=i-1;j>=0;j--) {
        if (remainders[j]<10) {
            printf("%d",remainders[j]);
        } else {
            printf("%c",'A'+(remainders[j]-10));
        }
    }
}2
printf("\n");
}

int main() {
    printf("Aaryan Sharma\n");
    printf("16010123012");
    int d,b;
    printf("\nEnter number : ");
    scanf("%d",&d);
    printf("Enter the base between 2 and 16 : ");
    scanf("%d",&b);
    convert(d,b);
    return 0;
}

```

```

Aaryan Sharma
16010123012
Enter number : 56
Enter the base between 2 and 16 : 5
Equivalent number in base 5: 211

Process returned 0 (0x0)    execution time : 3.972 s

```

```
Aaryan Sharma
16010123012
Enter number : 9
Enter the base between 2 and 16 : 2
Equivalent number in base 2: 1001

Process returned 0 (0x0)    execution time : 5.046 s
```

Q7

```
#include<stdio.h>

int occurrence(int k)
{
    int m;
    printf("\nEnter value of m:");
    scanf("%d",&m);
    int a[m];
    int i;
    for(i=0;i<m;i++)
    {
        printf("Enter value:");
        scanf("%d",&a[i]);
        a[m]+=a[i];
    }
    for(i=0;i<m;i++)
    {
        printf("%d ",a[i]);
    }
    printf("\n");
    int c=0;
    for(i=0;i<m;i++)
    {
        if(a[i]%2==0)
```



```
{
    c++;
    if(c==k){
        return a[i];
    }
}

}

return -1;
}

int main()
{
    printf("Aaryan Sharma\n");
    printf("16010123012\n");
    int k;
    printf("Enter value of k:");
    scanf("%d",&k);
    printf("Result:%d",occurence(k));
    return 0;
}
```

```
Aaryan Sharma  
16010123012  
Enter value of k:5
```

```
Enter value of m:4  
Enter value:3  
Enter value:4  
Enter value:5  
Enter value:6  
3 4 5 6
```

```
Result:-1
```

```
Process returned 0 (0x0)    execution time : 6.139 s
```

```
Aaryan Sharma  
16010123012  
Enter value of k:2
```

```
Enter value of m:4  
Enter value:1  
Enter value:2  
Enter value:3  
Enter value:4  
1 2 3 4
```

```
Result:4
```

```
Process returned 0 (0x0)    execution time : 6.158 s
```