Practical – 1: Basic Input/Output Operation

1. **Program to read two integer and two floating point numbers.**

```
#include <stdio.h>
int main() {
   int i1,i2;
   float f1,f2;
   printf("Enter Two Integers\n");
   scanf("%d %d",&i1,&i2);
   printf("%d %d\n",i1,i2);
   printf("Enter Two Floating Number\n");
   scanf("%f %f",&f1,&f2);
   printf("%f %f",f1,f2);
   return 0;
}
```

2. **Program to accept the marks of 5 subjects and finds the sum and percentage marks obtained by the student.**

```
# include < stdio.h >
int  main( )
{
int  s1, s2, s3, s4, s5, sum ;
float  avg ;
printf(" Enter the marks of five subjects : ") ;
scanf("%d %d %d %d %d ",&s1, &s2, &s3, &s4, &s5) ;
sum = s1 + s2 + s3 + s4 + s5 ;
avg = sum / 5 ;
printf("\n Total Marks in 5 subjects : ") ;
printf(" %d ",  sum) ;
printf("\n Percents of 5 subjects : ") ;
printf(" %f ",  avg) ;
return 0;
}
```

3. **Program to calculate the simple interest and compound interest (The Principal, Amount, Rate of Interest and Time are entered through keyboard).**

```
#include<stdio.h>
#include<math.h>
void main()
{
        float p, r, t, a, si, ci;
        printf("Enter Principle: ");
        scanf("%f",&p);
        printf("Enter Rate: ");
        scanf("%f",&r);
        printf("Enter Time: ");
        scanf("%f",&t);

        si=(p*r*t)/100;

        printf("Simple Interest=%f",si);
        a = p*(pow((1 + r / 100), t));
        ci =  a - p;
        printf("\nCompound Interest: %f",ci);

}
```

4. **Program to calculate the area and circumference of a circle.**

```
#include<stdio.h>
int main() {
  int rad;
  float PI = 3.14, area, ci;
  printf("\nEnter radius of circle: ");
  scanf("%d", &rad);
  area = PI * rad * rad;
  printf("\nArea of circle : %f ", area);
  ci = 2 * PI * rad;
  printf("\nCircumference : %f ", ci);
  return (0);
}
```

5. **Program that accepts temperature in Centigrade and converts into Fahrenheit using the formula C/5 = (F-32)/9.**

```
#include<stdio.h>
void main()
{
        float c,f;
        printf("Enter Centigrade=");
        scanf("%f",&c);
        f=(9*c)/5+32;
        printf("Fahrenheit=%f",f);
}
```

6. **Program that swaps values of two variables using a third variable.**

```
#include<stdio.h>
void main()
{
        int  a,b,temp;
        printf("Enter a=");
        scanf("%d",&a);
        printf("Enter b=");
        scanf("%d",&b);
        temp=a;
        a=b;
        b=temp;
        printf("\nAfter swapping");
        printf("\na=%d",a);
        printf("\nb=%d",b);
}
```

7. **Program that swaps the values of two variables without using a 3rd variable.**

```
#include<stdio.h>
 int main()
{
int a=10, b=20;
printf("Before swap a=%d b=%d",a,b);
a=a+b;//a=30 (10+20)
b=a-b;//b=10 (30-20)
a=a-b;//a=20 (30-10)
printf("\nAfter swap a=%d b=%d",a,b);
return 0;
}
```

8. **Program to calculate and print the area of triangle, where the three sides of the triangle is given as input.**

```
#include<stdio.h>
#include<math.h>
int main()
{
   float a, b, c, s, area;
   printf("Enter three sides of triangle\n");
   scanf("%f%f%f",&a,&b,&c);
   s = (a+b+c)/2;
   area = sqrt(s*(s-a)*(s-b)*(s-c));
   printf("\n Area of triangle: %.2f\n",area);
   return 0;
}
```