LECTURE NOTE-7

FORMATTED INPUT-OUTPUT

Data can be entered & displayed in a particular format. Through format specifications, better presentation of results can be obtained.

Variations in Output for integer & floats:

```
#include<stdio.h>
int main()
{
   printf("Case 1:%6d\n",9876);
/*  Prints the number right justified within 6 columns  */
printf("Case 2:%3d\n",9876);
/* Prints the number to be right justified to 3 columns but, there are 4 digits so number is not
right justified  */
   printf("Case 3:%.2f\n",987.6543);
/* Prints the number rounded to two decimal places */
printf("Case 4:%.f\n",987.6543);
/* Prints the number rounded to 0 decimal place, i.e, rounded to integer */
printf("Case 5:%e\n",987.6543);
/* Prints the number in exponential notation (scientific notation) */
return 0;
}
```

Output

```
Case 1:  9876
Case 2:9876
Case 3:987.65
Case 4:988
Case 5:9.876543e+002
```

Variations in Input for integer and floats:

```
#include <stdio.h>
int main()
{
int a,b;
float c,d;
printf("Enter two intgers: ");
/*Two integers can be taken from user at once as below*/
```

```
 scanf("%d%d",&a,&b);
 printf("Enter intger and floating point numbers: ");
/*Integer and floating point number can be taken at once from user as below*/
scanf("%d%f",&a,&c);
return 0;
}
```

Similarly, any number of inputs can be taken at once from user.

EXERCISE:

1. To print out a and b given below, which of the following printf() statement will you use?

```
#include<stdio.h>
float a=3.14;
double b=3.14;
```

   A. printf("%f %lf", a, b);
   B. printf("%Lf %f", a, b);
   C. printf("%Lf %Lf", a, b);
   D. printf("%f %Lf", a, b);

2. To scan a and b given below, which of the following scanf() statement will you use?

```
#include<stdio.h>
float a;
double b;
```

   A. scanf("%f %f", &a, &b);
   B. scanf("%Lf %Lf", &a, &b);
   C. scanf("%f %Lf", &a, &b);
   D. scanf("%f %lf", &a, &b);

3. For a typical program, the input is taken using.
   A. scanf
   B. Files
   C. Command-line
   D. None of the mentioned

4. What is the output of this C code?

```
#include <stdio.h>
int main()
{   int i = 10, j = 2;
   printf("%d\n", printf("%d %d ", i, j));
}
```

A. Compile time error
B. 10 2 4
C. 10 2 2
D. 10 2 5

5. What is the output of this C code?

```
#include <stdio.h>
int main()
{
      int i = 10, j = 3;
      printf("%d %d %d", i, j);
}
```

A. Compile time error
B. 10 3
C. 10 3 some garbage value
D. Undefined behavior

6. What is the output of this C code?

```
#include <stdio.h>
int main()
{    int i = 10, j = 3, k = 3;
    printf("%d %d ", i, j, k);
}
```

A. Compile time error
B. 10 3 3
C. 10 3
D. 10 3 somegarbage value

7. The syntax to print a % using printf statement can be done by.
   A. %
   B. %
   C. '%'
   D. %%

8. What is the output of this C code?

```
#include <stdio.h>
int main()
{  int n;
   scanf("%d", n);
   printf("%d\n", n);
   return 0;
}
```

   A. Compilation error
   B. Undefined behavior
   C. Whatever user types
   D. Depends on the standard

9. What is the output of this C code?

```
#include <stdio.h>
int main()
{  short int i;
   scanf("%hd", &i);
   printf("%hd", i);
  return 0;
}
```

   A. Compilation error
   B. Undefined behavior
   C. Whatever user types
   D. None of the mentioned

10. In a call to printf() function the format specifier %b can be used to print binary equivalent of an integer.
    A. True
    B. False

11. Point out the error in the program?

```
#include<stdio.h>
int main()
{
    char ch;
    int i;
   scanf("%c", &i);
  scanf("%d", &ch);
  printf("%c %d", ch, i);
 return 0;
}
```

A. Error: suspicious char to in conversion in scanf()
B. Error: we may not get input for second scanf() statement
C. No error
D. None of above

12. Which of the following is NOT a delimiter for an input in scanf?

A. Enter
B. Space
C. Tab
D. None of the mentioned