

UNIT 3

Input and Output LAB

A. FORMATTED INPUT OUTPUT:

a. scanf()-Formatted Input:

1. WAP to show the usage of whitespace character in scanf() function.

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

```
int main(){  
    int n;  
    char c;  
    printf("Enter a number:");  
    scanf("%d",&n);  
    printf("\nEnter a character:");  
    scanf(" %c",&c);    //Note a space before %c  
    printf("\nNumber=%d \t Character=%c",n,c);  
    return 0;  
}
```

Note:

The %c conversion specifier **won't automatically skip any leading whitespace**, so if there's a stray **newline in the input stream** (from a previous entry, for example) the **scanf call will consume it immediately**.

The **blank** in the format **string tells scanf to skip leading whitespace**, and **the first non-whitespace character will be read** with the %c conversion specifier.

2. WAP to show the use of ordinary character in control string of scanf() function.

```
#include<stdio.h>

int main(){
    int day,month,year;
    printf("Enter your date of birth in sequence day, month and year separated by / character:");
    scanf("%d/%d/%d",&day,&month,&year);
    printf("Your date of birth is: %d day %d month %d year.",day,month,year);
    return 0;
}
```

3. WAP to read marks of a student in a subject. The input marks should be less than 100 (i.e. only two digits).

```
#include<stdio.h>

int main(){
    int marks;
    printf("Enter your marks in C:");
    scanf("%2d",&marks);
    printf("Your entered marks=%d",marks);
    return 0;
}
```

4. WAP to skip input field by specifying character * in scanf() function.

```
#include<stdio.h>

int main(){
    int a,b,c;
    printf("Enter three numbers:");
    scanf("%d%*d%d",&a,&b,&c); // Note: * indicates that the field is to be read but ignored
    printf("a=%d \t b=%d \t c=%d",a,b,c);
    return 0;
}
```

5. WAP to input string from user and display it on screen.

```
#include<stdio.h>

int main(){
    char name[20];
    printf("Enter your name:");
    scanf("%s",name);
    printf("Your name is: %s",name);
    return 0;
}
```

6. WAP to take input string from user. Your program should allow to input uppercase letter only.

```
#include<stdio.h>

int main(){
    char name[20];
    printf("Enter your name in uppercase:");
    scanf("%[A-Z]",name);
}
```

```
    printf("Your name is: %s",name);  
    return 0;  
}
```

7. WAP to read a string with multiple words (i.e. with space) using scanf() function and display on the screen.

```
#include<stdio.h>  
  
int main(){  
    char name[20];  
    printf("Enter your full name:");  
    scanf("%[^\n]",name);  
    printf("Your name is: %s",name);  
    return 0;  
}
```

b. printf()-Formatted Output:

8. What is the output of the following program? [Integer output].

```
#include<stdio.h>  
  
int main(){  
    int n=1234;  
    float m=12.31456;  
    printf(" n=%d",n);  
    printf("\n n=%6d",n);  
    printf("\n n=%2d",n);  
    printf("\n n=%-6d",n);  
    printf("\n n=%06d",n);  
    printf("\n n=%.2f",m);
```

```

    return 0;
}

```

9. What is the output of the following program? [character output]

```

#include<stdio.h>

int main(){
    char ch='A';
    printf("ch=%2c",ch);
    printf("\nch=%5c",ch);
    printf("\nch=%-5c",ch);
    return 0;
}

```

10. What is the output of the following program? [String output].

```

#include<stdio.h>

int main(){
    char str[10]="MY NEPAL";
    printf("%s",str);
    printf("\n%10s",str);
    printf("\n%-10s",str);
    printf("\n%.4s",str);
    printf("\n%4s",str);
    printf("\n%10.6s",str);
    printf("\n%-10.6s",str);
    return 0;
}

```

11. WAP to display an integer, a float and a string value using single printf() function.

```
#include<stdio.h>

int main(){
    int a=10;
    float b=2.5;
    char name[4]="Ram";
    printf("integer=%d \t float=%f \t string=%s",a,b,name);
    return 0;
}
```

B. UNFORMATTED INPUT OUTPUT**12. WAP to read a character from keyboard using getchar() function and display on the screen using putchar() function.**

```
#include<stdio.h>

int main(){
    char gender;
    printf("Enter your gender:");
    gender=getchar();
    printf("Your gender is:");
    putchar(gender);
    return 0;
}
```

‘OR’ without using getchar() and putchar() functions

```
#include<stdio.h>

int main(){
```

```
    char gender;
    printf("Enter your gender:");
    scanf("%c",&gender);
    printf("Your gender is:%c",gender);
    return 0;
}
```

13. WAP to read two characters from keyboard: one using getch() & another using getche() function and displays the characters using putch() function.

```
#include<stdio.h>
#include<conio.h>
int main(){
    char a,b;
    printf("Enter 1st character:");
    a=getch();
    printf("\nEnter 2nd character:");
    b=getche();
    printf("\n1st character: ");
    putch(a);
    printf("\n2nd character: ");
    putch(b);
    return 0;
}
```

14. WAP to read a string with multiple words (i.e string with space) using gets() function and display on the screen using puts() function.

```
#include<stdio.h>

#include<conio.h>

int main(){
    char name[20];
    printf("Enter your name:");
    gets(name);
    printf("Your name is:");
    puts(name);
    return 0;
}
```