

CHAPTER No. 3 INPUT AND OUTPUT HANDLING

EXERCISE

Short Questions

Q. No.01: Why format specifier is used? Explain with examples.

Ans: Format specifier is used in C language during input and output process. It is a way to tell the compiler what type of data is in variable while using scanf() and printf() functions.

Example:-

- %d is used for integer data type.
- %f is used for floating point.
- %c is used for character data type.
- %s is used for string.

Q. No.02: Why escape sequence is used? Give example.

Ans: Escape sequence is used to control printing on the output devices. These characters are not displayed on screen but used inside the control string. It is combination of backslash and a character code i.e \n used to move control on new line.

Example:-

- printf("\n New line");
- printf("\t IMCB G-10/4 Islamabad");
- printf("Question mark \?");

Q. No.03: What is purpose of gets() function?

Ans: The purpose of gets () function is to take input from user by keyboard in the form of a string and store it inside the variable specified inside in the parenthesis as a argument.

Example

```
#include <stdio.h>
#include <conio.h>
main()
{
char name[30];
printf("Enter name:");
gets(name);
puts(name);
getch();
}
```

Q. No.04: Differentiate between getch() and getche() functions.

Ans: The difference between getch() and getche() is as follows:

getch()	getche()
It is used to accept single character from user but it does not display that character on screen when it is pressed.	It is used to accept the character from the user and (echo) display on the screen when it is pressed.

Q. No.05: Evaluate the following expressions.

a) $7+5*(3+4)$

$=7+5*(3+4)$

$=7+5*7$

$=7+35$

$=42$

b) $100/10/4$

$=100/10/4$

$=10/4$

$=2.5$

c) $15\%13\%3$

$=15\%13\%3$

$=2$

d) $30/7*3-6$

$=30/7*3-6$

$=4.28*3-6$

$=12.85-6$

$=6.85$

Q. No.06: Write output of the following program?

Ans:


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

```
void main(void)
```

```
{
```

```
    int x,y,z1,z2,z3,z4;
    x=17;
    y=5;
    z1=x/y;
    printf("\nz1=%d",z1);
    z2=x%y;
    printf("\nz2=%d",z2);
    z3=++x;
    printf("\nz3=%d",z3);
    z4=y++;
    printf("\nz4=%d",z4);
```

```
}
```



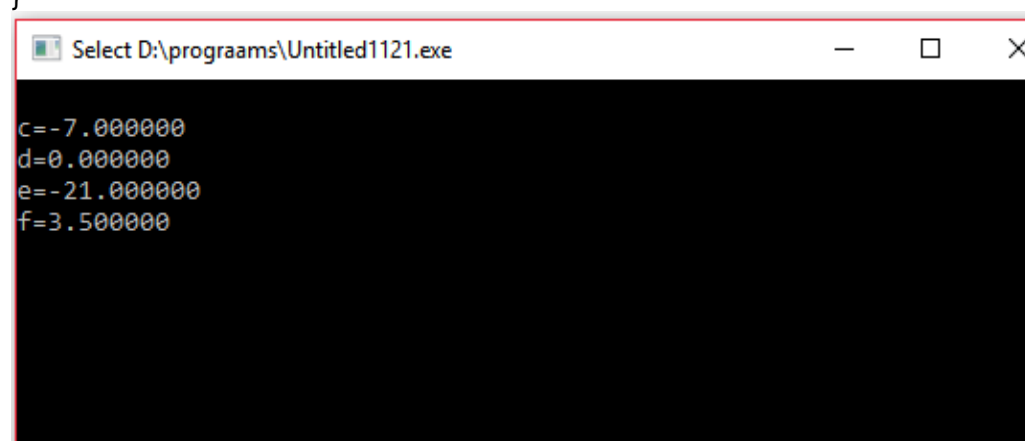
```
D:\prograams\Untitled11w.exe
z1=3
z2=2
z3=18
z4+5
```

Q. No. 07: Write output of following program.

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

```
void main(void)
```

```
{
    int b;
    float a,c,d,e,f;
    b=7;
    c=a-b;
    printf("\nc=%f",c);
    d=a/b;
    printf("\nd=%f",d);
    e=a-b*3;
    printf("\ne=%f",e);
    f=(a+b)/2;
    printf("\nf=%f",f);
}
```



```
Select D:\prograams\Untitled1121.exe
c=-7.000000
d=0.000000
e=-21.000000
f=3.500000
```

Extensive Question Answers

Q. No.01: Describe how basic and compound assignment operators are used?

Ans: Basic Assignment Operator:- Basic assignment operator is used to assign value or constant to a variable.

General form:-

Variable=expression / value / constant

Example:

Prod= a*b;

A=100;

Compound Assignment Operator:- While assigning any value to a variable there are number of assignment operators included in C i.e +=, -=, *=, /=

General form:

Variable operator= expression / value

Example:

sum += a; → sum= sum+a;

prod *= a; → prod= prod*a;

Q. No.02: Describe the function of the following

1. Relational operator
2. Logical operator
3. Conditional operator

Ans: Relational Operator:- Relational operator checks the relation between operands. If the relation is true it returns 1. If the relation is false it returns 0. These operators are used in decision making loops.

Example:

==, <=, >=, >, <

Logical Operator:- These operators are used for building compound condition if we have more than one condition for same action.

Types of logical operators

1. AND (&&)
2. OR (||)
3. NOT (!)

Conditional Operator:- Conditional operator is similar to if else condition and it is used to make decision if the condition is true the statement 1 will assigned otherwise statement 2 will be assigned.

Q. No.03: Write a program that reads three numbers and print their sum, product, and average.

Ans:

```
#include <stdio.h>
#include <conio.h>
int main()
{
    int a,b,c,sum,prod,avg;
    printf("Enter three number:");
    scanf("%d %d %d",&a,&b,&c);
    sum=a+b+c;
    prod=a*b*c;
    avg=sum/3;
    printf("\nSum:%d",sum);
    printf("\nproduct:%d",prod);
    printf("\naverage:%d",avg);
    getch();
}
```

Q. No.04: Write a program that reads length and width of rectangle and prints its area.

Ans:

```
#include <stdio.h>
#include <conio.h>
int main()
{
    int length,width,area;
    printf("Enter length of rectangle:");
    scanf("%d",&length);
    printf("Enter width of rectangle:");
    scanf("%d",&width);
    area=length*width;
    printf("Area of rectangle is %d",area);
    getch();
}
```

Q. No.05: write a program that reads length of a cube and prints its volume.

Ans:

```
#include <stdio.h>
#include <conio.h>
int main()
{
    int length,volume;
    printf("Enter length of one side of cube:");
    scanf("%d",&length);
    volume=length*length*length;
    printf("Volume of cube is %d",volume);
    getch();
}
```

Q. No.06: Write a program that reads temperature in Celsius, converts it into Fahrenheit and prints on the screen.

Ans:

```
#include <stdio.h>
#include <conio.h>
int main()
{
    float c, f;
    printf("Enter tempreture in celcius:");
    scanf("%f",&c);
    f=(c*9/5)+32;
    printf("Tempreture in fahrenheit is:%.2f",f);
    getch();
}
```

Q. No.07: Write a program that reads name and address of a person and prints it on the screen using gets() and puts() functions.

Ans:

```
#include <stdio.h>
#include <conio.h>
void main()
{
    char name[30], address[50];
    printf("Enter name:");
    gets(name);
    printf("\nEnter address:");
    gets(address);
    puts(name);
    puts(address);
    getch();
}
```