UNIT 4

Operators and Expressions LAB

1. WAP to demonstrates the use of arithmetic operator.

```
#include<stdio.h>
int main(){
        int a,b,c;
        float d,e,f;
        a=8; b=3; c=4;
        d=12.5; e=6.25; f=3.5;
        printf("a/b=%d \t a/c=%d",a/b,a/c);
        printf("\nd/e=%f \t d/f=%f \t d/a=%f",d/e,d/f,d/a);
        printf("\nUnary minus -a=%d",-a);
        return 0;
}
```

2. WAP to convert number of days into days and month.

```
#include<stdio.h>
int main(){
        int days, months;
        printf("Enter number of days:");
        scanf("%d",&days);
        months=days/30;
        days=days%30;
        printf("Months=%d Days=%d",months,days);
        return 0;
}
```

3. WAP that reads time in seconds and converts it into hour, minute and seconds.

```
#include<stdio.h>
int main(){
        int hour,minute,seconds;
        printf("Enter time in seconds:");
        scanf("%d",&seconds);
        hour=seconds/3600;
        seconds=seconds%3600;
        minute=seconds/60;
        seconds=seconds%60;
        printf("%d hour, %d minutes, %d seconds",hour,minute,seconds);
        return 0;
}
```

4. WAP to print a six digit integer in reverse order.

```
#include<stdio.h>
int main(){
        long num,digit1,digit2,digit3,digit4,digit5;
        printf("Enter a six digit integer:");
        scanf("%ld",&num);
        digit1=num%10;
        num=num/10;
        digit2=num%10;
        num=num/10;
        digit3=num%10;
        num=num/10;
```

```
    digit4=num%10;
    num=num/10;
    digit5=num%10;
    num=num/10;
    printf("Reverse=%ld%ld%ld%ld%ld%ld",digit1,digit2,digit3,digit4,digit5,num);
    return 0;
}
```

5. WAP to sum the digits of a positive integer which is 5 digits long.

```
#include<stdio.h>
int main(){
    int num,digit1,digit2,digit3,digit4,sum;
    printf("Enter a five digit integer:");
    scanf("%d",&num);
    digit1=num%10;
    num=num/10;
    digit2=num%10;
    num=num/10;
    digit3=num%10;
    num=num/10;
    digit4=num%10;
    num=num/10;
    sum=digit1+digit2+digit3+digit4+num;
    printf("Sum=%d",sum);
    return 0;
}
```

6. WAP that demonstrates the use of relational operators.

```
#include<stdio.h>
int main(){
        int a=5,b=12,c=7;
        printf("a<b => %d \t a>b => %d \t a==c => %d",a<b,a>b,a==c);
        printf("\na<=b => %d \t a>=b => %d \t a!=c => %d",a<=b,a>=b,a!=c);
        return 0;
}
```

7. WAP that demonstrates the use of logical operators.

```
#include<stdio.h>
int main(){
        int a=12,b=7,c=25;
        printf("a<b && a<c => %d",(a<b && a<c));
        printf("\na>b && b<c => %d",(a>b && b<c));
        printf("\na<b || a<c => %d",(a<b || a<c));
        printf("\na>b || b<c => %d",(a>b || b<c));
        printf("\na>c || b>c => %d",(a>c || b>c));
        return 0;
}
```

8. WAP that finds the larger among two integers using conditional operator.

```
#include<stdio.h>
int main(){
        int a,b,larger;
        printf("Enter two numbers:");
        scanf("%d%d",&a,&b);
        larger=a>b?a:b;
        printf("The larger number is %d",larger);
```

```
    return 0;
}
```

9. WAP that finds the largest among four integers using conditional operator.

```
#include<stdio.h>
int main(){
    int a,b,c,d,large1,large2,largest;
    printf("Enter two numbers:");
    scanf("%d%d%d%d",&a,&b,&c,&d);
    large1=a>b?a:b;
    large2=large1>c?large1:c;
    largest=large2>d?large2:d;
    printf("The largest number is %d",largest);
    return 0;
}
```

10. WAP that demonstrates the use of bitwise logical operators.

```
#include<stdio.h>
int main(){
    int a=10,b=11;
    int AND,OR,XOR;
    AND=a&b;
    OR=a|b;
    XOR=a^b;
    printf("AND => %d",AND);
    printf("\nOR => %d",OR);
    printf("\nXOR => %d",XOR);
    return 0;
```

```
}
```

11. WAP that demonstrates the use of bitwise shift operators.

```
#include<stdio.h>
int main(){
        int a=20;
        int left,right;
        left=a << 3;
        right=a >> 3;
        printf("Left => %d",left);
        printf("\nRight => %d",right);
        return 0;
}
```

12. WAP that demonstrates the use of sizeof() operator.

```
#include<stdio.h>
int main(){
        printf("Size of integer = %d bytes",sizeof(int));
        printf("\nSize of float = %d bytes",sizeof(float));
        printf("\nSize of double = %d bytes",sizeof(double));
        printf("\nSize of long int = %d bytes",sizeof(long));
        return 0;
}
```