Assignment 3: Operators and Expressions

Name: Harshal Atre Balkrishna

Roll NO. : A-76

1.Write a program to swap two numbers with and without using a temporary variable.

Answer:

Source code:

WITH TEMP VARIABLE:

```c
#include <stdio.h>

int main(){

 int a,b,temp;
 printf("Enter a= " );
 scanf("%d",&a);
 printf("Enter b= " );
 scanf("%d",&b);
```

```c
    temp=a;

    a=b;

    b=temp;


    printf("a= %d ",a);

    printf("b= %d",b);


}
```

WITHOUT TEMP VARIABLE:
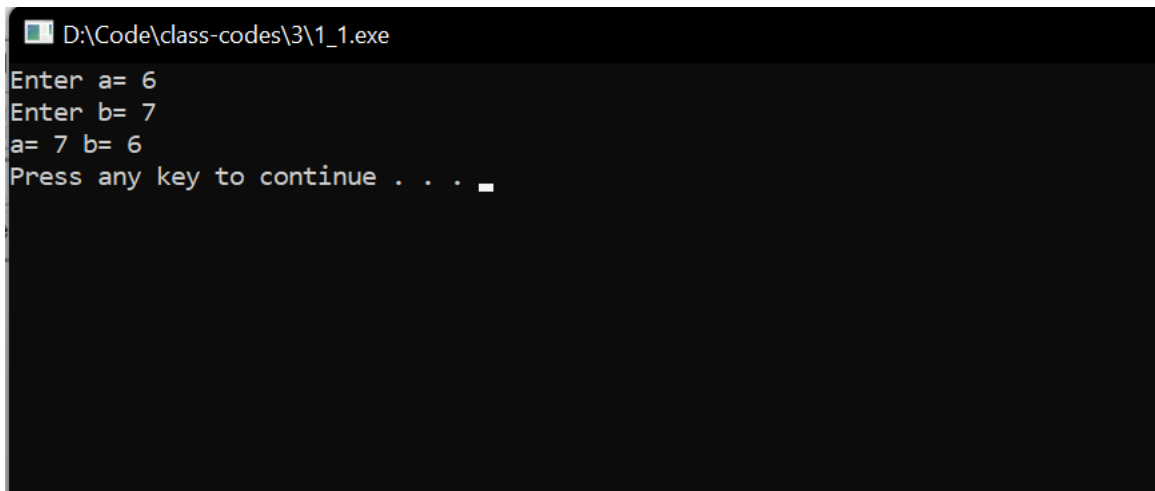
```c
#include <stdio.h>

int main(){
    int a,b;
    printf("Enter a= " );
    scanf("%d",&a);
    printf("Enter b= " );
    scanf("%d",&b);

    a=a+b;
    b=a-b;
    a=a-b;
```

```c
 printf("a= %d ",a);

 printf("b= %d\n",b);

}
```

OUTPUT:

```
D:\Code\class-codes\3\1_1.exe
Enter a= 6
Enter b= 7
a= 7 b= 6
Press any key to continue . . . _
```

2.Write a c program that reads two numbers and performs their division. If the division is not possible, then an error message, "Division not possible" is displayed
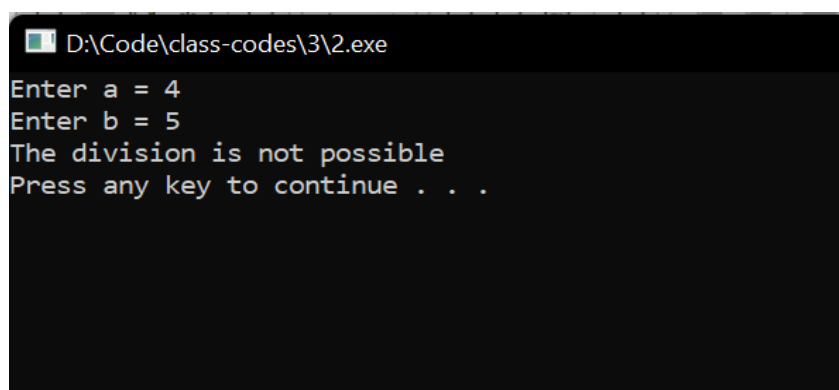
Answer:

Source code:

```c
#include <stdio.h>

int main(){
    int a,b;
```

```c
printf("Enter a = " );
scanf("%d",&a);
printf("Enter b = " );
scanf("%d",&b);

if(a%b==0){
    printf("The division is possible");
}
else{
    printf("The division is not possible\n");
}
}
```

OUTPUT:


```
D:\Code\class-codes\3\2.exe
Enter a = 4
Enter b = 5
The division is not possible
Press any key to continue . . .
```
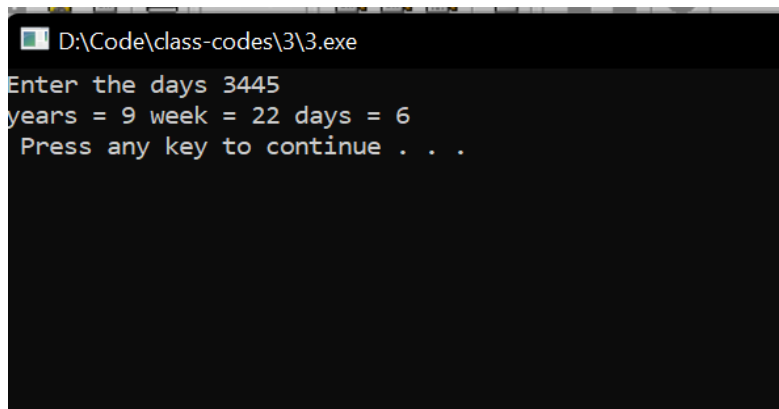
3.Write a c program to input the value of days and convert it into years, weeks and days.

Answer:

Source code:

```c
#include <stdio.h>

#include <stdlib.h>

int main(){

    int years,months,days,week;

    printf("Enter the days ");

     scanf("%d",&days);

     years=days/365;

     week=(days%365)/7;

     days=days-(years*365+week*7);

     printf("years = %d " ,years);

     printf("week = %d " ,week);

     printf("days = %d\n " ,days);

system("pause");

}
```

OUTPUT:


```
D:\Code\class-codes\3\3.exe

Enter the days 3445
years = 9 week = 22 days = 6
 Press any key to continue . . .
```
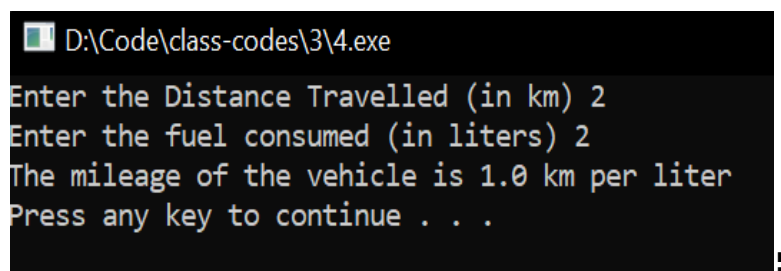
4.Write a c program to input the distance travelled by a car and the fuel consumed. Next compute the mileage of the car and display.

Answer:

Source code:

```c
#include <stdio.h>
#include <stdlib.h>
int main(){
    float distance,fuel,mileage;
    printf("Enter the Distance Travelled (in km) ");
    scanf("%f",&distance);
    printf("Enter the fuel consumed (in liters) ");
    scanf("%f",&fuel);
    mileage=distance/fuel;
    printf("The mileage of the vehicle is %.1f ",mileage);
    printf("km per liter\n");
system("pause");
}
```

OUTPUT:


```
D:\Code\class-codes\3\4.exe

Enter the Distance Travelled (in km) 2
Enter the fuel consumed (in liters) 2
The mileage of the vehicle is 1.0 km per liter
Press any key to continue . . .
```

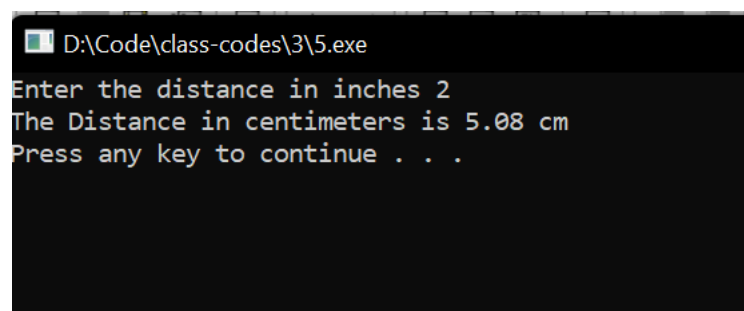5.Write a program that takes distance in inches and prints the corresponding value in cms.

(Note that 1 inch = 2.54 cm)

Answer:

Source code:

#include <stdio.h>

#include <stdlib.h>

int main(){

   int inches;

   printf("Enter the distance in inches ");

   scanf("%d",&inches);

  float centimeters=inches*2.54;

   printf("The Distance in centimeters is %.2f",centimeters);

   printf(" cm \n");
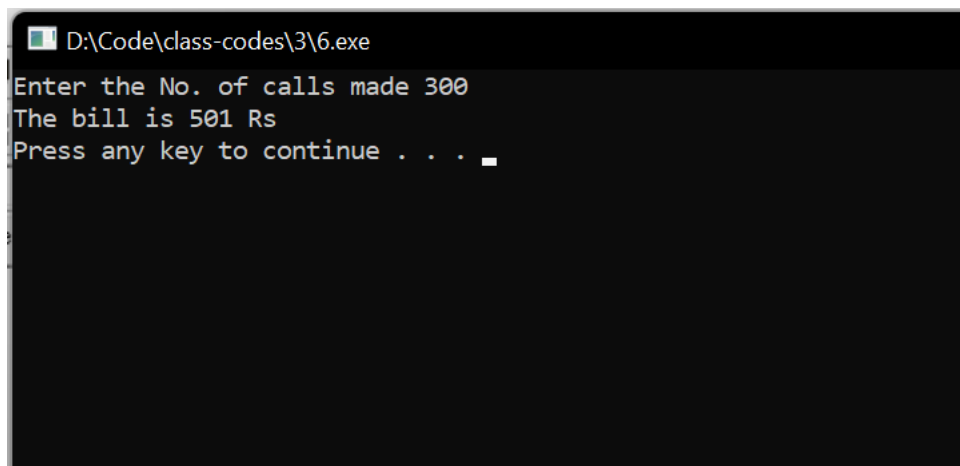
   system("pause");

}

OUTPUT:

6.The cost of one type of mobile service is Rs. 250 plus Rs. 1.25 for each call made overand above 100 calls. Write a _program to read customer codes and calls made and print the bill for each customer.

Answer:

Source code:

```
#include <stdio.h>
#include <stdlib.h>
int main(){
    int cost,bill,calls;
    printf("Enter the No. of calls made ");
    scanf("%d",&calls);
    cost=250;
    if(calls>=100){
        bill=cost+(1.25*(calls-99));
    }
    else{
        bill=cost;
    }
    printf("The bill is %d ",bill);
    printf("Rs\n");
    system("pause");
}
```

OUTPUT:

7.Write a c program to shift the given data by two bits to the left.
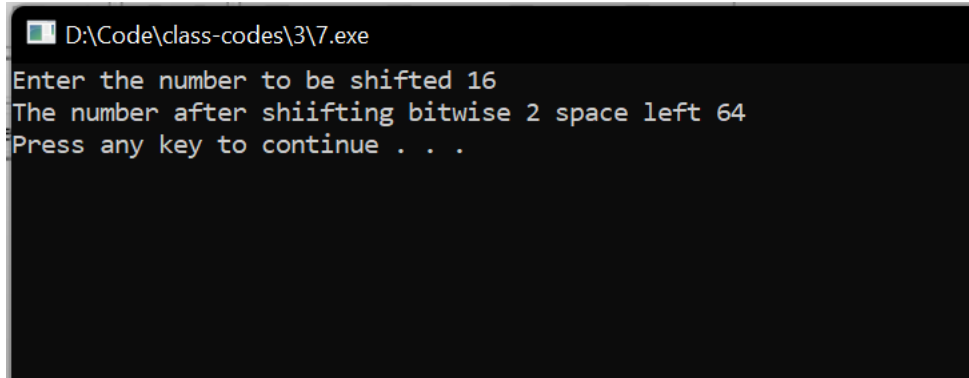
Answer:

Source code:

```
#include <stdio.h>

#include <stdlib.h>

int main(){

    int a;

    printf("Enter the number to be shifted ");

    scanf("%d",&a);

    a=a<<2;

    printf("The number after shiifting bitwise 2 space left %d\n",a);

    system("pause");
```

}

OUTPUT:


```
D:\Code\class-codes\3\7.exe

Enter the number to be shifted 16
The number after shiifting bitwise 2 space left 64
Press any key to continue . . .
```

8.Write a program to input the value of 4 variables a, b, c and d, Compute the resultantvalue of the following expressions:

a. (a+b) * (c /d)

b. (a + b) *c/d

c. a+(b*c) / d

Answer:

Source code:

a.

#include <stdio.h>

#include <stdlib.h>

int main(){

   int a,b,c,d,ans;

   printf("a= ");

   scanf("%d",&a);

```c
    printf("b= ");
    scanf("%d",&b);
    printf("c= ");
    scanf("%d",&c);
    printf("d= ");
    scanf("%d",&d);
    ans=(a+b)*(c/d);
    printf("Answer is %d\n",ans);
system("pause");
}
```

b.

```c
#include <stdio.h>
#include <stdlib.h>
int main(){
    int a,b,c,d,ans;
    printf("a = ");
    scanf("%d",&a);
    printf("b = ");
    scanf("%d",&b);
    printf("c = ");
    scanf("%d",&c);
    printf("d = ");
```

```
    scanf("%d",&d);
    ans=(a+b)*c/d;
    printf("Answer is %d\n",ans);
    system("pause");
}
```

c.

```
#include <stdio.h>
#include <stdlib.h>
int main(){
    int a,b,c,d,ans;
    printf("a = ");
    scanf("%d",&a);
    printf("b = ");
    scanf("%d",&b);
    printf("c = ");
    scanf("%d",&c);
    printf("d = ");
    scanf("%d",&d);
    ans=a+(b*c)/d;
    printf("Answer is %d\n",ans);
    system("pause");
}
```

OUTPUT:

a.


```
D:\Code\class-codes\3\8_1.exe

a= 4
b= 5
c= 4
d= 3
Answer is 9
Press any key to continue . . .
```

b.


```
D:\Code\class-codes\3\8_2.exe

a = 3
b = 4
c = 5
d = 6
Answer is 5
Press any key to continue . . .
```

c.


```
D:\Code\class-codes\3\8_3.exe

a = 3
b = 5
c = 4
d = 6
Answer is 6
Press any key to continue . . . .
```

9.Given three values, write a program to read three values from the keyboard and print out

the largest of them without using if statement.

Answer:

Source code:

```
#include <stdio.h>
#include <stdlib.h>
int main(){
    int a,b,c;
    printf("Enter a = ");
    scanf("%d",&a);
    printf("Enter b = ");
    scanf("%d",&b);
    printf("Enter c = ");
    scanf("%d",&c);
    (a>b)?(a>c)?printf("a is greater\n"):printf("c is greater\n"):(b>c)?printf("b is greater\n"):printf("c is greater\n");
    system("pause");
}
```

OUTPUT:

```
D:\Code\class-codes\3\9.exe

Enter a = 3
Enter b = 4
Enter c = 5
c is greater
Press any key to continue . . .
```