

Assignment – 2

1. Write a program to print unit digit of a given number?

ans :-

```
#include<stdio.h>

int main()
{
    int num,uin;
    printf("Enter a number:");
    scanf("%d",&num);
    uin=num%10;
    printf("the unit number is %d",uin);
    return 0;
}
```

2. Write a program to print a given number without its last digit?

```
#include<stdio.h>

int main()
{
    int num,g;
    printf("Enter a number :");
    scanf("%d",&num);
    g=num/10;
    printf("the output of given number is:%d",g);
    return 0;
}
```

3. Write a program to swap values of two int variables?

```
#include<stdio.h>

int main(){
```

```

    int fir,sec,thir;
    printf("Enter the first number:\n");
    scanf("%d",&fir);
    printf("Enter the second number :\n");
    scanf("%d",&sec);
    printf("Number before swaping:1st num:-%d 2nd num:-%d\n",fir,sec);
    thir=fir;
    fir=sec;
    sec=thir;
    printf("Number after swaping:1st num:-%d 2nd num:-%d\n",fir,sec);
    return 0;
}

```

4. Write a program to swap values of two int variables without using a third variable?

```

#include<stdio.h>

int main(){
    int fir,sec;

    printf("Enter the first number:\n");
    scanf("%d",&fir);
    printf("Enter the second number :\n");
    scanf("%d",&sec);

    printf("Number before swaping:1st num:-%d 2nd num:-%d\n",fir,sec);

    fir=(fir+sec);
    sec=(fir-sec);
    fir=(fir-sec);

    printf("Number after swaping:1st num:-%d 2nd num:-%d\n",fir,sec);

    return 0;
}

```

5. Write a program to input a three-digit number and display the sum of the digits?

```
#include<stdio.h>

int main(){

    int a,b,c;

    printf("Enter the first number:\n");

    scanf("%d",&a);

    printf(" Enter the second number :\n");

    scanf("%d",&b);

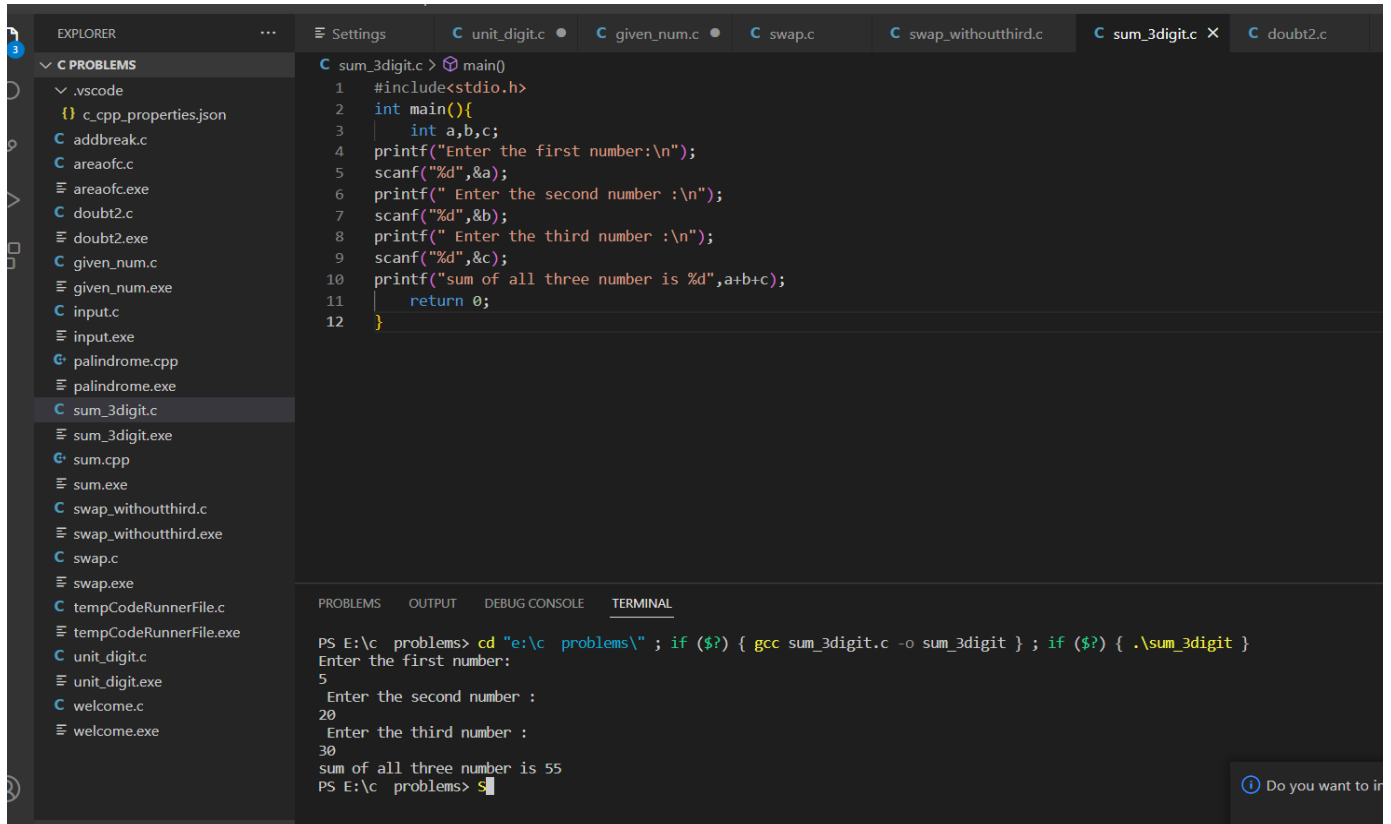
    printf(" Enter the third number :\n");

    scanf("%d",&c);

    printf("sum of all three number is %d",a+b+c);

    return 0;

}
```



The screenshot shows a Visual Studio Code editor with a C program in a file named `sum_3digit.c`. The program prompts the user to enter three numbers and calculates their sum. The Explorer sidebar on the left shows a list of files, including `sum_3digit.c` and `sum_3digit.exe`. The terminal at the bottom shows the command to compile and run the program, followed by the user's input and the program's output.

```
sum_3digit.c > main()
1  #include<stdio.h>
2  int main(){
3      int a,b,c;
4      printf("Enter the first number:\n");
5      scanf("%d",&a);
6      printf(" Enter the second number :\n");
7      scanf("%d",&b);
8      printf(" Enter the third number :\n");
9      scanf("%d",&c);
10     printf("sum of all three number is %d",a+b+c);
11     return 0;
12 }
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL

```
PS E:\c problems> cd "e:\c problems\" ; if ($?) { gcc sum_3digit.c -o sum_3digit } ; if ($?) { .\sum_3digit }
Enter the first number:
5
Enter the second number :
20
Enter the third number :
30
sum of all three number is 55
PS E:\c problems> s
```

Do you want to in

6. Write a program which takes a character as an input and displays its ASCII code?

```
#include<stdio.h>

int main(){
    char k;
    int j;
    printf("Enter a character:");
    scanf("%c",&k);
    j=k;
    printf("%d",j);
}
```

7. Write a program to find the position of first 1 in LSB?

Ans:

```
#include<stdio.h>

int main(){
    int x,count=0,res=0;
    printf("Enter a number:");
    scanf("%d",&x);
    /*while (x!=0)
    {
        res=x&1;
        i++;
        if (res==1)
        {
            printf("%d",count);
            break;
        }
        x=x>>1;
    }
}
```

```

    }*/

    for ( int i = 0; i <=count ; i++)

    {

        res=x&1;

        count++;

        if (res==1)

        {

            printf("%d",count);

            break;

        }

        x=x>>1;

    }

}

```

The screenshot shows a Visual Studio Code editor with a C project. The Explorer sidebar on the left lists files including .vscode, c_cpp_properties.json, and various C source and executable files. The main editor window displays the code for `bitwise.c`, showing a `main()` function that reads an integer `x` and counts the number of set bits (1s) in its binary representation. The code uses a loop to shift the bits of `x` to the right and checks the least significant bit. The count is printed when the bit is 1, and the loop breaks when the count reaches 1. The code is as follows:

```

1  #include<stdio.h>
2  int main(){
3      int x,count=0,res=0;
4      printf("Enter a number:");
5      scanf("%d",&x);
6      /*while (x!=0)
7      {
8          res=x&1;
9          i++;
10         if (res==1)
11         {
12             printf("%d",count);
13             break;
14         }
15         x=x>>1;
16     }*/
17     for ( int i = 0; i <=count ; i++)
18     {
19         res=x&1;
20         count++;
21         if (res==1)
22         {
23             printf("%d",count);
24             break;
25         }
26         x=x>>1;
27     }
28 }

```

8. Write a program to check whether the given number is even or odd using a bitwise

Operator?

Ans:

```
#include<stdio.h>

int main(){
    int x,res;
    printf("Enter a number:");
    scanf("%d",&x);
    res=x&1;
    if (res==1)
    {
        printf("odd");
    }
    else{
        printf("even");
    }
    return 0;
}
```

```
EXPLORER
C PROBLEMS
  .vscode
  c_cpp_properties.json
  addbreak.c
  areaof.c
  areaofc.exe
  bitwise_even.c
  bitwise_even.exe
  bitwise.c
  bitwise.exe
  charasc2.c
  charasc2.exe
  doubt2.c
  doubt2.exe
  given_num.c
  given_num.exe
  input.c
  input.exe
  loop.c
  loop.exe
  palindrome.cpp
  palindrome.exe
  row.c
  row.exe
  sum_3digit.c
  sum_3digit.exe
  sum.cpp
  sum.exe
  sumofn.c
  sumofn.exe
  swap_withouthird.c

C bitwise_even.c > main()
1  #include<stdio.h>
2  int main(){
3      int x,res;
4      printf("Enter a number:");
5      scanf("%d",&x);
6      res=x&1;
7      if (res==1)
8      {
9          printf("odd");
10     }
11     else{
12         printf("even");
13     }
14     return 0;
15 }
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL

Install the latest PowerShell for new features and improvements! <https://aka.ms/PSWindows>

```
PS E:\c problems> cd "e:\c problems\" ; if ($?) { gcc bitwise_even.c -o bitwise_even } ; if ($?) { .\bitwise.exe }
Enter a number:5
odd
PS E:\c problems> cd "e:\c problems\" ; if ($?) { gcc bitwise_even.c -o bitwise_even } ; if ($?) { .\bitwise.exe }
Enter a number:8
even
PS E:\c problems> cd "e:\c problems\" ; if ($?) { gcc bitwise.c -o bitwise } ; if ($?) { .\bitwise.exe }
Enter a number:4
3
PS E:\c problems>
```

9. Write a program to print size of an int, a float, a char and a double type variable?

Ans:

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

```
int main(){
```

```
    int x;
```

```
    float y;
```

```
    char z;
```

```
    double w;
```

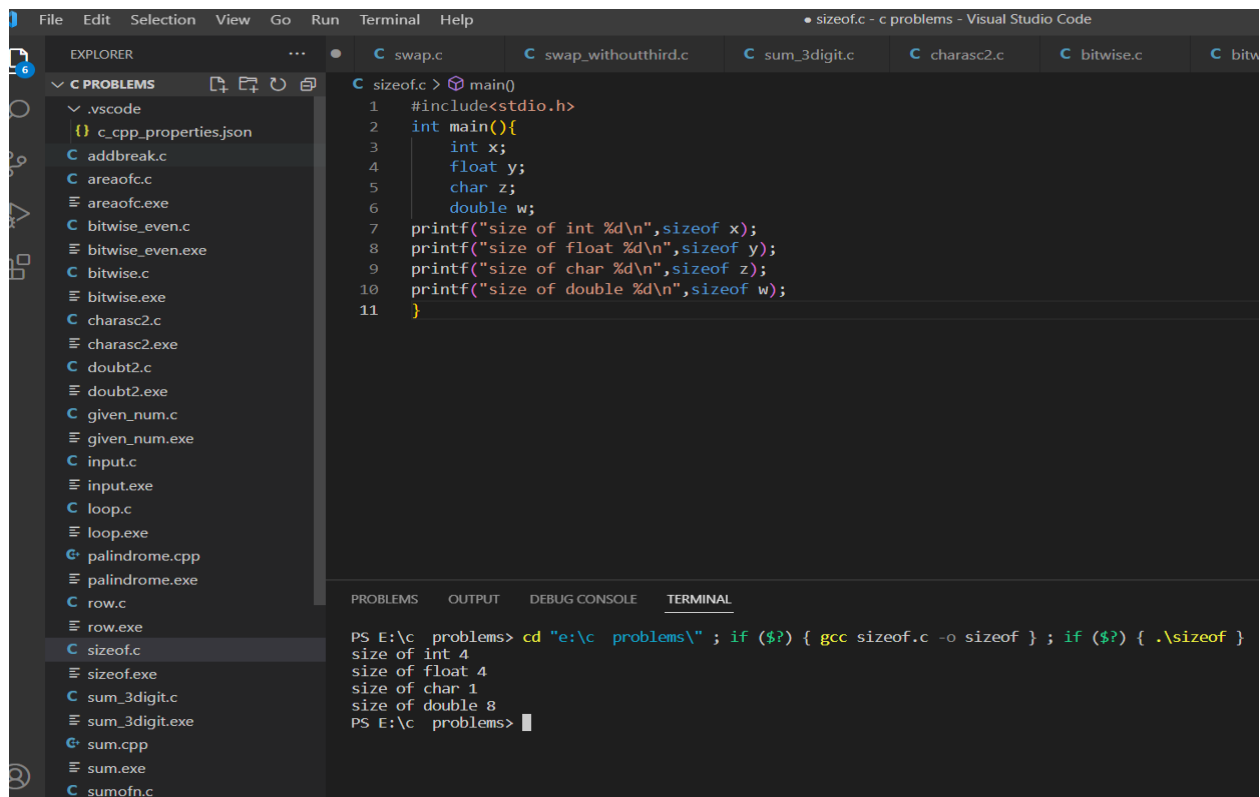
```
printf("size of int %d\n",sizeof x);
```

```
printf("size of float %d\n",sizeof y);
```

```
printf("size of char %d\n",sizeof z);
```

```
printf("size of double %d\n",sizeof w);
```

```
}
```



The screenshot shows the Visual Studio Code interface. The Explorer panel on the left lists files in the 'C PROBLEMS' workspace, including 'sizeof.c'. The main editor displays the code for 'sizeof.c', which includes `<stdio.h>` and defines a `main()` function that prints the sizes of `int`, `float`, `char`, and `double` using `sizeof`. The TERMINAL panel at the bottom shows the command `gcc sizeof.c -o sizeof` being executed, followed by the program's output: `size of int 4`, `size of float 4`, `size of char 1`, and `size of double 8`.

```
File Edit Selection View Go Run Terminal Help
• sizeof.c - c problems - Visual Studio Code

EXPLORER
C PROBLEMS
  .vscode
  c_cpp_properties.json
  addbreak.c
  areaofc.c
  areaofc.exe
  bitwise_even.c
  bitwise_even.exe
  bitwise.c
  bitwise.exe
  charasc2.c
  charasc2.exe
  doubt2.c
  doubt2.exe
  given_num.c
  given_num.exe
  input.c
  input.exe
  loop.c
  loop.exe
  palindrome.cpp
  palindrome.exe
  row.c
  row.exe
  sizeof.c
  sizeof.exe
  sum_3digit.c
  sum_3digit.exe
  sum.cpp
  sum.exe
  sumofn.c

C sizeof.c > main()
1 #include<stdio.h>
2 int main(){
3     int x;
4     float y;
5     char z;
6     double w;
7     printf("size of int %d\n",sizeof x);
8     printf("size of float %d\n",sizeof y);
9     printf("size of char %d\n",sizeof z);
10    printf("size of double %d\n",sizeof w);
11 }
```

```
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL
PS E:\c problems> cd "e:\c problems\" ; if ($?) { gcc sizeof.c -o sizeof } ; if ($?) { .\sizeof }
size of int 4
size of float 4
size of char 1
size of double 8
PS E:\c problems>
```

10. Write a program to make the last digit of a number stored in a variable as zero?

Ans:

```
#include<stdio.h>

int main(){

int n=2345;

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

n=n/10;

n=n*10;

printf("Num=%d",n);

}
```



```
numberchange.c > main()
1  #include<stdio.h>
2  int main(){
3  int n=2345;
4  printf("Num=%d\n",n);
5  n=n/10;
6  n=n*10;
7  printf("Num=%d",n);
8  }
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL

```
PS E:\c problems> cd "e:\c problems\" ; if ($?) { gcc numberchange.c -o numberchange } ;
Num=2345
Num=2340
PS E:\c problems> 
```

11. Write a program to input a number from the user and also input a digit. Append a digit in the number and print the resulting number. (Example - number=234 and digit=9 then the resulting number is 2349)?

Ans:

```
#include<stdio.h>

int main(){
    int num,dig;
    printf("Enter a number:");
    scanf("%d",&num);
    printf("Enter a digit:");
    scanf("%d",&dig);
```

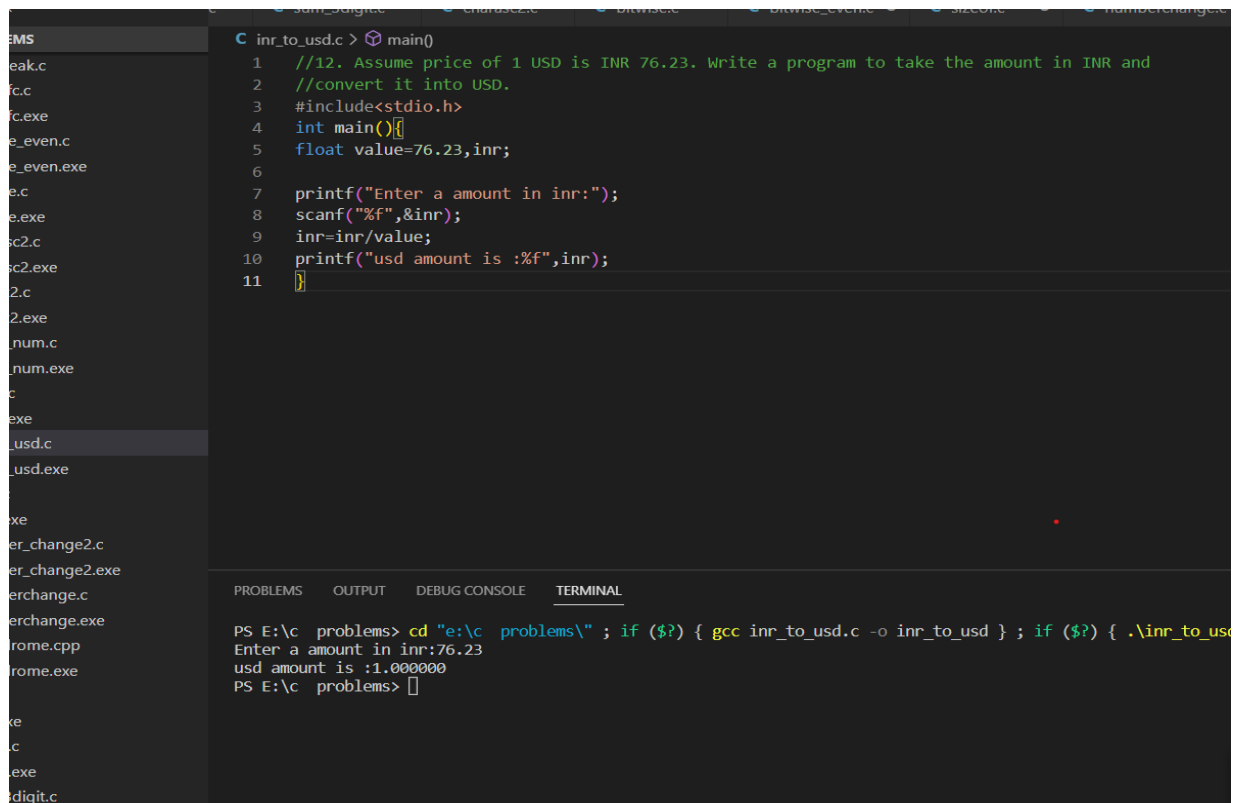
```
num=num*10;
num=num+dig;
printf("the change number is:%d",num);
}
```

12. Assume price of 1 USD is INR 76.23. Write a program to take the amount in INR and convert it into USD.

Ans:

```
#include<stdio.h>
int main(){
float value=76.23,inr;

printf("Enter a amount in inr:");
scanf("%f",&inr);
inr=inr/value;
printf("usd amount is :%f",inr);
}
```



```
inr_to_usd.c > main()
1 //12. Assume price of 1 USD is INR 76.23. Write a program to take the amount in INR and
2 //convert it into USD.
3 #include<stdio.h>
4 int main(){
5 float value=76.23,inr;
6
7 printf("Enter a amount in inr:");
8 scanf("%f",&inr);
9 inr=inr/value;
10 printf("usd amount is :%f",inr);
11 }
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL

```
PS E:\c problems> cd "e:\c problems\" ; if ($?) { gcc inr_to_usd.c -o inr_to_usd } ; if ($?) { .\inr_to_usd }
Enter a amount in inr:76.23
usd amount is :1.000000
PS E:\c problems> 
```

13. Write a program to take a three-digit number from the user and rotate its digits by one position towards the right.

Ans:

```
#include<stdio.h>

int main(){

int n;

printf("Enter a number :");

scanf("%d",&n);

n=n%10*100+n/10;

printf("%d",n);

}
```