# Printf Scanf  Assignment

**Mandatory:**

Q1. WAP with

1a. function readdisplay() to read the following data types only one at a time at run time and to display.
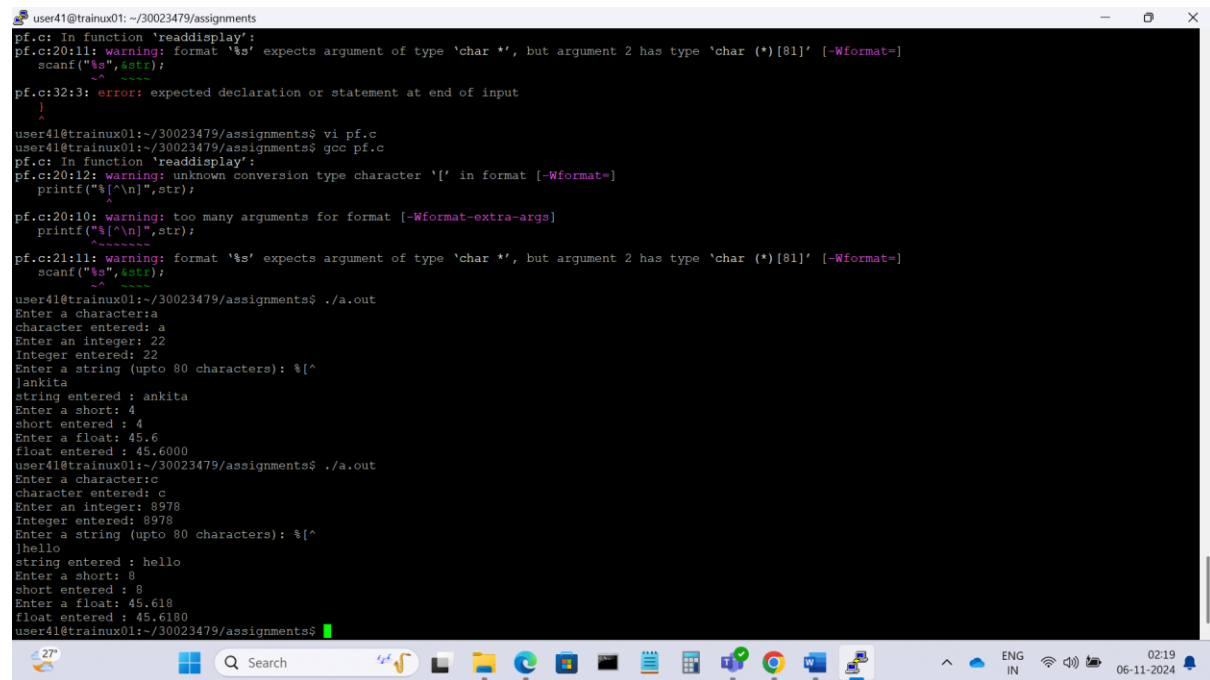
1. char type
2. integer type
3. char array of maximum 80 characters
4. short type
5. float type

TestData:

'c', 8978, "hello", 8, 45.678

'H', 254, "hello Hi How", 256, 145.2678

**Ans:**

1b. Create a copy of readdisplay() as function readdisplay2() with changes below

- Instead of reading 1 data at a time, read all inputs using a single scanf().

Test readdisplay2() by changing the read order. Do you observe any issue?

Ans:

1c. display the char array content in upper case

Ans:

```c
1  #include <stdio.h>
2  #include <string.h>
3  void readdisply(){
4          char ch;
5          int integer;
6          char str[81];
7          short sh;
8          float f;
9
10         printf("Enter a character, an integer, a string, a short, and float: ");
11         scanf("%c %d %[^\n] %hd %f", &ch, &integer, str, &sh, &f);
12
13         for(int i =0; str[i]!='\0'; i++){
14                 if(str[i]>='a' && str[i] <= 'z'){
15                         str[i]=str[i]-'a'+'A';
16                 }
17         }
18
19         printf("character entered: %c\n",ch);
20         printf("integer entered: %d\n",integer);
21         printf("string entered: %s\n",str);
22         printf("short entered: %hd\n",sh);
23         printf("float entered: %.4f\n",f);
24  }
25
26      int main(){
27             readdisply();
28             return 0;
29      }
```

"pf2.c" 29L, 596C                                                    1,1           All

```
    reddisply
/tmp/cci9Adge.o: In function `main':
pf2.c:(.text+0xf1): undefined reference to `readdisply'
collect2: error: ld returned 1 exit status
user41@trainux01:~/30023479/assignments$ vi pf2.c
user41@trainux01:~/30023479/assignments$ gcc pf2.c
user41@trainux01:~/30023479/assignments$ ./a.out
Enter a character, an integer, a string, a short, and float: w 23 hello 3 56.9




^C
user41@trainux01:~/30023479/assignments$ ./a.out
Enter a character, an integer, a string, a short, and float: w
34
hello
3
45.98
character entered: w
integer entered: 34
string entered: hello
short entered: 3
float entered: 45.9800
user41@trainux01:~/30023479/assignments$ vi pf2.c
user41@trainux01:~/30023479/assignments$ gcc pf2.c
user41@trainux01:~/30023479/assignments$ ./a.out
Enter a character, an integer, a string, a short, and float: w
45
hello
6
67.098
character entered: w
integer entered: 45
string entered: HELLO
short entered: 6
float entered: 67.0980
user41@trainux01:~/30023479/assignments$
```

1d. Add code to display the size of each data type mentioned in Q1a and sizeof the variables of each datatype (You may refer sample code in data_type_size.c )

Ans:





Q2. Try to run the program with code snippet below. Check the output and analyse. Fix it to get correct result.

```c
#include<stdio.h>

int main()

{

    unsigned long int ul =  200333333334340;

    printf("value is:%d\n", ul);

    return 0;
```

```
}
```

Ans:

```
1 #include<stdio.h>
2 int main()
3 {
4         unsigned long int ul =  200333333334340;
5         printf("value is:%lu\n", ul);
6         return 0;
7 }
```

"change.c" 7L, 138C                                        1,1        All

---

```
string entered: HELLO
short entered: 6
float entered: 67.0980
user41@trainux01:~/30023479/assignments$ vi pf2.c
user41@trainux01:~/30023479/assignments$ vi pf.c
user41@trainux01:~/30023479/assignments$ gcc pf.c
pf.c: In function 'readdisplay':
pf.c:20:12: warning: unknown conversion type character '[' in format [-Wformat=]
    printf("%[^\n]",str);
           ^
pf.c:20:10: warning: too many arguments for format [-Wformat-extra-args]
    printf("%[^\n]",str);
           ^~~~~~~
pf.c:21:11: warning: format '%s' expects argument of type 'char *', but argument 2 has type 'char (*)[81]' [-Wformat=]
    scanf("%s",&str);
          ~^  ~~~~
user41@trainux01:~/30023479/assignments$ ./a.out
Enter a character:w
character entered: w
Enter an integer: 456
Integer entered: 456
Enter a string (upto 80 characters): %[^
]hello
string entered : hello
Enter a short: 6
short entered : 6
Enter a float: 78.987
float entered : 78.9870

size of char: 1 bytes

size of integer: 4 bytes

size of string: 81 bytes

size of short: 2 bytes

size of float: 4 bytes
user41@trainux01:~/30023479/assignments$ vi pf.c
user41@trainux01:~/30023479/assignments$ vi change.c
user41@trainux01:~/30023479/assignments$ gcc change.c
user41@trainux01:~/30023479/assignments$ ./a.out
value is:200333333334340
user41@trainux01:~/30023479/assignments$
```