



Name:.....

ID: .....

**Q.1** A book has a few attributes such as “title”, “author name”, “number of pages”, “price” [ 12 ]  
and an ISBN\_number.

Design an appropriate structure named “**Book**” with proper variable types based on the specification. After that, perform the following operations.

- Create an array of structure that can store **100** books’ information
- Take inputs from the user and populate into the array of structures.
- Display all the books’ **titles** and their **prices** based on their *number of pages* in **descending order**. [Hint: sort the array of structure in descending order based on the number of pages]

### Solution:

```
#include<stdio.h>

struct Book{
    char title[100];
    char author[100];
    int num_of_pages;
    int price;
    int ISBN_Num;
};

int main()
{
    struct Book b[100];
    // Taking Input into the array of structure
    for(int i=0;i<100;i++){
        scanf("%s",b[i].title);
        scanf("%s",b[i].author);
        scanf("%d",&b[i].num_of_pages);
        scanf("%d",&b[i].price);
        scanf("%d",&b[i].ISBN_Num);
    }
```

```
// Sorting array based on number of pages
struct Book temp;
for(int i=0;i<100;i++){
    for(int j=0;j<100;j++){
        if(b[j].num_of_pages<b[j+1].num_of_pages){
            temp=b[j];
            b[j]=b[j+1];
            b[j+1]=temp;
        }
    }
}

// Displaying book's title and price
for(int i=0;i<100;i++){
    printf("%s  ",b[i].title);
    printf("%d\n",b[i].num_of_pages);
}

return 0;
}
```

**Q.2** Write a C program that does the following:

[ 8 ]

- i. Create a function **strConcat(...)** that will accept **three strings** as parameters.  
It will append the first two strings into the third string (Don't use any built-in functions)
- ii. In main function:
  - Take two strings from user as inputs
  - Call the **strConcat()** function and display the third string.

### Solution:

```
#include <stdio.h>
#include <string.h>
void strConcat(char str1[],char str2[],char str3[])
{
    int len1=strlen(str1);
    int len2=strlen(str2);

    // Add String1 to String3
    for(int i=0;i<len1;i++){
        str3[i]=str1[i];
    }

    // Add String2 to existing String3
    for(int i=0;i<len2;i++){
        str3[len1+i]=str2[i];
    }
}
int main() {
    char str1[100],str2[100],str3[100];
    gets(str1);
    gets(str2);
    strConcat(str1,str2,str3);
    puts(str3);
    return 0;
}
```