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NPTEL (<https://swayam.gov.in/explorer?ncCode=NPTEL>) » Problem Solving Through Programming In C (course)



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### Course outline

How does an NPTEL online course work? ()

Week 0 : ()

Week 1 ()

Week 2 ()

Week 3 ()

Week 4 ()

Week 5 ()

Week 6 ()

Week 7 ()

Week 8 ()

## Week 12 : Assignment 12

The due date for submitting this assignment has passed.

Due on 2023-10-18, 23:59 IST.

Assignment submitted on 2023-10-09, 15:06 IST

1) Which of the following are themselves a collection of different data types?

1 point

- ☐ a) String
- ☐ b) Array
- ☐ c) Character
- ☒ d) Structure

Yes, the answer is correct.

Score: 1

Accepted Answers:

d) Structure

2) Which of the following comments about the usage structures is true?

1 point

- ☐ a) Storage class can be assigned to individual member
- ☐ b) Individual members can be initialized within a structure type declaration
- ☒ c) The scope of the member name is confined to the particular structure, within which it is defined
- ☐ d) None of the above

Yes, the answer is correct.

Score: 1

Accepted Answers:

c) The scope of the member name is confined to the particular structure, within which it is defined

**Week 9 ()****Week 10 ()****Week 11 ()****Week 12 ()**

● Lecture 56 :  
Structure  
(Contd.) (unit?  
unit=109&less  
on=110)

● Lecture 57 :  
Structure with  
typedef (unit?  
unit=109&less  
on=111)

● Lecture 58 :  
Pointer (unit?  
unit=109&less  
on=112)

● Lecture 59 :  
Pointer  
(Contd.) (unit?  
unit=109&less  
on=113)

● Lecture 60 :  
Pointer in  
Structures  
(unit?  
unit=109&less  
on=114)

● Lecture 61 :  
Dynamic  
Allocation and  
File (unit?  
unit=109&less  
on=115)

● **Quiz: Week  
12 :  
Assignment  
12  
(assessment?  
name=279)**

● Week 12 :  
Programming  
Assignment 1  
(/noc23\_cs121  
/progassignme  
nt?name=280)

3) What is actually passed if you pass a structure variable to a function?

**1 point**

- ☒ a) Copy of structure variable  
☐ b) Reference of structure variable  
☐ c) Starting address of structure variable  
☐ d) Ending address of structure variable

Yes, the answer is correct.

Score: 1

Accepted Answers:

a) *Copy of structure variable*

4) Which function is used to write a string to a file?

**1 point**

- ☒ a) fputs()  
☐ b) fprintf()  
☐ c) fwrite()  
☐ d) All of the above

No, the answer is incorrect.

Score: 0

Accepted Answers:

d) *All of the above*

5) Find the output of the following program

**1 point**

```
#include<stdio.h>
int main()
{
    char A[] = {'a','b','c','d','e','f','g','h'};
    char *p = A;
    ++p;
    while(*p != 'e')
        printf("%c", *p++);
    return 0;
}
```

- ☐ a) abcd  
☒ b) bcd  
☐ c) cd  
☐ d) abcd fgh

Yes, the answer is correct.

Score: 1

Accepted Answers:

b) *bcd*

● Week 12 :  
Programming  
Assignment 2  
(/noc23\_cs121  
/progassignment?name=281)

● Week 12 :  
Programming  
Assignment 3  
(/noc23\_cs121  
/progassignment?name=282)

● Week 12 :  
Programming  
Assignment 4  
(/noc23\_cs121  
/progassignment?name=283)

● Feedback  
Form of Week  
12 (unit?  
unit=109&less  
on=284)

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July 2023 ()**

- 6) **1 point**
- The program will allocate ..... bytes to ptr. Assume sizeof(int) = 4.
- ```
#include<stdio.h>
#include<stdlib.h>

int main()
{
    int *ptr;
    ptr = (int*)malloc(sizeof(int)*4);
    ptr = realloc(ptr,sizeof(int)*2);
    return 0;
}
```
- ☒ a) 8  
☐ b) 16  
☐ c) 4  
☐ d) 32
- Yes, the answer is correct.  
 Score: 1  
 Accepted Answers:  
 a) 8
- 7) **1 point**
- What is the output of the following C code? Assume that the address of x is 2000 (in decimal) and an integer requires four bytes of memory.
- ```
#include <stdio.h>
int main()
{
    unsigned int x[4][3] = {{1, 2, 3}, {4, 5, 6}, {7, 8, 9}, {10, 11, 12}};
    printf("%u,%u, %u", x+3, *(x+3), *(x+2)+3);
    return 0;
}
```
- ☒ a) 2036, 2036, 2036  
☐ b) 2012, 4, 2204  
☐ c) 2036, 10, 10  
☐ d) 2012, 4, 6
- Yes, the answer is correct.  
 Score: 1  
 Accepted Answers:  
 a) 2036, 2036, 2036
- 8) Can a structure contain a pointer to its own type? **1 point**
- ☒ a) Yes  
☐ b) No  
☐ c) Only as an array  
☐ d) Only if the structure is anonymous

Yes, the answer is correct.

Score: 1

Accepted Answers:

a) Yes

9) What is the output of the following code snippet?

1 point

```
struct Point {  
    int x;  
    int y;  
};  
struct Point *arr[2];  
struct Point p1 = {1, 2}, p2 = {3, 4};  
arr[0] = &p1;  
arr[1] = &p2;  
printf("%d", arr[1]->y);
```

- ☐ a) 1
- ☐ b) 2
- ☐ c) 3
- ☒ d) 4

Yes, the answer is correct.

Score: 1

Accepted Answers:

d) 4

10) What is the output of the following C program?

1 point

```
#include <stdio.h>  
struct p  
{  
    int x;  
    char y;  
};  
  
int main()  
{  
    struct p p1[] = {1, 90, 62, 33, 3, 34};  
    struct p *ptr1 = p1;  
    int x = (sizeof(p1) / 3);  
    if (x == sizeof(int) + sizeof(char))  
        printf("True");  
    else  
        printf("False");  
    return 0;  
}
```

- ☐ a) True
- ☒ b) False
- ☐ c) No output
- ☐ d) Compilation error

Yes, the answer is correct.

Score: 1

Accepted Answers:

*b) False*