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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 2023-10-18, 18:25 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
/progassignm

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

ent?
name=280)

● Week 12 :
Programming
Assignment 2
(/noc23_cs121
/progassignm
ent?
name=281)

● Week 12 :
Programming
Assignment 3
(/noc23_cs121
/progassignm
ent?
name=282)

○ Week 12 :
Programming
Assignment 4
(/noc23_cs121
/progassignm
ent?
name=283)

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

○ Assignment
12 Solution
(unit?
unit=109&less
on=117)

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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