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NPTEL (https://swayam.gov.in/explorer?ncCode=NPTEL) » Programming in C++ (course)

Announcements (announcements) **About the Course (preview)** Ask a Question (forum)

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Unit 3 - Week 1

Course outline

How does an NPTEL online course work?

Week 0

Week 1

- Module 1 : Recap of C (Lecture 01) (unit?unit=17&lesson=18)
- Module 1 : Recap of C (Lecture 02) (unit?unit=17&lesson=19)
- Module 1 : Recap of C (Lecture 03) (unit?unit=17&lesson=20)
- Module 2 : Programs with IO and Loop (Lecture 04) (unit?unit=17&lesson=21)

Assignment 1

The due date for submitting this assignment has passed. **Due on 2020-09-30, 23:59 IST.**

Assignment submitted on 2020-09-29, 01:24 IST

1) ***2 points***

Consider the following code segment.

```
#include <iostream>
using namespace std;

int main() {
    int a[3] = { 10, 20, 30 };
    int __________;    // LINE-1

    p = &a;
    cout << (*p)[0] << " " << (*p)[1] << endl;

    return 0;
}
```

Fill in the blank at LINE-1 with appropriate option/s such that the output is: 10 20

- a) *p
- b) **p

c) `(*p)[3]`

d) `*p[3]`

Yes, the answer is correct.
Score: 2

Accepted Answers:
c) `(*p)[3]`

2) Consider the following code segment. ***2 points***

```
#include <iostream>
using namespace std;

int main() {
    int a[] = { 10, 20, 30, 40, 50, 60 }, *p;
    p = a + 5;                  // LINE-1
    int i = 0;

    while (i < 3) {
        cout << p[-i] << " "; // LINE-2
        p++;
        i++;
    }

    return 0;
}
```

What will be the output?

a) `10 30 50`

b) `60 50 40`

c) `60 40 20`

d) `60 60 60`

Yes, the answer is correct.
Score: 2

Accepted Answers:
d) `60 60 60`

Week 7

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3) Consider the following code segment. ***2 points***

```
#include <iostream>
using namespace std;

struct shape {
    int type;
    union g_shape {
        struct rect_share { int pt1, pt2; } r1;
        struct tri_shape { int pt1, pt2, pt3; } r2;
    };
    union g_shape s;
};
```

What will be the `sizeof(shape)` (consider the `sizeof(int) = 4`) ?

- a) 8
- b) 12
- c) 16
- d) 24

Yes, the answer is correct.
Score: 2

Accepted Answers:

c) 16

4) Consider the following code segment. ***2 points***

```
#include <iostream>
using namespace std;

int main() {
    int a[] = { 5, 20, 15 };
    int *arr[3] = { a, a + 1, a + 2 };

    cout << *arr[*arr[1] - 19];

    return 0;
}
```

What will be the output?

- a) 5
- b) 20
- c) 15

d) Unpredictable value

Yes, the answer is correct.
Score: 2

Accepted Answers:
b) 20

5) Consider the following code segment. **2 points**

```
#include <iostream>
#include <algorithm>
using namespace std;

bool compare(int i, int j) {
    return (i > j);
}

int main() {
    int data[] = { 40, 30, 90, 10, 20, 50, 70, 60, 80 };

    sort(data, __________, compare);    // LINE-1

    for (int i = 0; i < 9; i++)
        cout << data[i] << " ";

    return 0;
}
```

Fill in the blank with appropriate option/s, such that the output is:
90 40 30 20 10 50 70 60 80

- [ ] a) data + 9
- [x] b) data + 5
- [ ] c) data[8]
- [x] d) &data[5]

Yes, the answer is correct.
Score: 2

Accepted Answers:
b) data + 5
d) &data[5]

6) Consider the following code segment. **2 points**

```
#include <iostream>
#include <string>
using namespace std;

int main() {
    string str1 = "Physical ";
    string str2 = "Science";

    str1 = __________;    // LINE-1
    cout << str1;

    return 0;
}
```

Fill in the blank at LINE-1 such that the output is: `Physical Science`.

- [x] a) `str1 + str2`
- [ ] b) `strcat(str1,str2)`
- [ ] c) `strcat(strcpy(str2,str1),str2)`
- [x] d) `str1.append(str2)`

Yes, the answer is correct.
Score: 2

Accepted Answers:
a) `str1 + str2`
d) `str1.append(str2)`

7) Consider the following code segment. **2 points**

```
#include <iostream>
#include <vector>

int main() {
    std::vector<int> myvector(5);
    for (int i = 1; i < 5; i++)
        myvector[i] = i;          // LINE-1
    myvector.resize(3);           // LINE-2
    myvector.resize(4, 110);      // LINE-3
    myvector.resize(5);           // LINE-4

    for (int i = 0; i < myvector.size(); i++)
        std::cout << ' ' << myvector[i];

    return 0;
}
```

What will be the output?

- a) 0 1 2 110 0
- b) 0 1 2 1 0
- c) 0 1 2 3 4
- d) 110 110 110 110 0

Yes, the answer is correct.
Score: 2

Accepted Answers:
a) 0 1 2 110 0

8) Consider the following code segment. **2 points**

```
#include <iostream>
using namespace std;

union sample {
    int x;
    char y;
};

int main() {
    union sample ptr1;
    ptr1.x = 97;
    ptr1.y = 'B'; // ASCII Code of 'B' is 66

    union sample *ptr2 = &ptr1;

    cout << ptr2->x + (*ptr2).y;    // LINE-1

    return 0;
}
```

What will be the output/error?

- a) 163
- b) 132
- c) 194
- d) Compiler error: type mismatch for + operator

Yes, the answer is correct.
Score: 2

Accepted Answers:
b) 132

9) Consider the following code segment. **2 points**

```
int n = 10;

const int *p1 = &n;
int * const p2 = &n;
int const *p3 = &n;
int const * const p4 = &n;

*p1 = 20;     // STMT-1
*p2 = 20;     // STMT-2
*p3 = 20;     // STMT-3
*p4 = 20;     // STMT-4
```

Which statement / statements are correct?

- [ ] a) STMT-1
- [x] b) STMT-2
- [ ] c) STMT-3
- [ ] d) STMT-4

Yes, the answer is correct.
Score: 2

Accepted Answers:

b) STMT-2