

Answer Submitted.

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vishal31ku@gmail.com ▾

NPTEL (<https://swayam.gov.in/explorer?ncCode=NPTEL>) » Programming in Java (course)

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## Week 0: Assignment 0

Assignment not submitted

1) What is the output of the following C++ code snippet?

**1 point**

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

int main() {
    int x = 10, y = 20;
    int *p = &x;
    *p = y;
    cout << x << " " << y << endl;
    return 0;
}
```

- ☒ a. 20 20
- ☐ b. 10 20
- ☐ c. 10 10
- ☐ d. 20 10

Yes, the answer is correct.

Score: 1

Accepted Answers:

a. 20 20

2) If A is a 3 x 3 matrix given by:

**1 point**

## Course outline

### About NPTEL ()

### How does an NPTEL online course work? ()

### Week 0 : ()

#### ☐ Practice: Week 0: Assignment 0 (assessment? name=389)

### Week 1 : ()

$$A = \begin{bmatrix} 2 & -1 & 3 \\ 0 & 4 & 5 \\ -2 & -3 & 1 \end{bmatrix}$$

What is the determinant of A?

- ☐ a. 49  
☒ b. 72  
☐ c. 54  
☐ d. -54

Yes, the answer is correct.

Score: 1

Accepted Answers:

b. 72

3) Given vectors  $u=(2,3)$  and  $v=(4,-1)$ , what is the dot product  $u \cdot v$ ?

**1 point**

- ☐ a. 10  
☒ b. 5  
☐ c. 11  
☐ d. 7

Yes, the answer is correct.

Score: 1

Accepted Answers:

b. 5

4) Consider the following C++ code snippet. What will be the output?

**1 point**

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

void swap(int &a, int &b) {
    int temp = a;
    a = b;
    b = temp;
}

int main() {
    int x = 5, y = 10;
    swap(x, y);
    cout << x << " " << y << endl;
    return 0;
}
```

```
}
```

- ☒ a. 10 5
- ☐ b. 5 5
- ☐ c. 10 10
- ☐ d. 5 10

Yes, the answer is correct.

Score: 1

Accepted Answers:

a. 10 5

5) What will be the output of the following C code?

**1 point**

```
#include <stdio.h>

int main() {
    int arr[5] = {1, 2, 3, 4, 5};
    int *ptr = arr;
    printf("%d\n", *(ptr + 3));
    return 0;
}
```

- ☐ a. 1
- ☐ b. 2
- ☐ c. 3
- ☒ d. 4

Yes, the answer is correct.

Score: 1

Accepted Answers:

d. 4

6) What is the modulus of the complex number  $z=3+4i$  ?

**1 point**

- ☒ a. 5
- ☐ b. 7
- ☐ c. 4
- ☐ d. 3

Yes, the answer is correct.

Score: 1

Accepted Answers:

a. 5

7) What will be the output of the following C++ code snippet?

**1 point**

```
#include <iostream>

using namespace std;
```

```
int main() {  
    int alpha = 10;  
    int *p = &alpha;  
    cout << *p << endl;  
    return 0;  
}
```

- ☐ a. Address of alpha  
☒ b. 10  
☐ c. Garbage value  
☐ d. Compilation Error

Yes, the answer is correct.

Score: 1

Accepted Answers:

b. 10

8) In the binomial expansion of  $(a+b)^5$ , what is the coefficient of the term  $a^3 b^2$ ?

**1 point**

- ☐ a. 5  
☒ b. 10  
☐ c. 20  
☐ d. 30

Yes, the answer is correct.

Score: 1

Accepted Answers:

b. 10

9) Given 3 numbers x, y and z. In order to find the maximum using if-then-else:

**1 point**

```
if x > y then  
    if x > z then  
        max = x  
    else  
        max = z  
else  
    _____ #MISSING  
    max = y  
else  
    max = z
```

- ☒ a. if y > z then  
☐ b. if y < z then

☐ c. if  $x > z$  then

☐ d. if  $x < z$  then

Yes, the answer is correct.

Score: 1

Accepted Answers:

*a. if  $y > z$  then*

10) Which of the following statements correctly initializes an array in C? (Please choose **1 point**  
All if all are correct)

☐ a. `int arr[5] = {1, 2, 3}`

☐ b. `int arr[] = {1, 2, 3}`

☐ c. `int arr[5] = {1, 2, 3, 4, 5}`

☒ d. All of these

Yes, the answer is correct.

Score: 1

Accepted Answers:

*d. All of these*

11) What is the output of the following C++ code?

**1 point**

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

void fun(int arr[], int n) {
    for(int i = 0; i < n; i++) {
        arr[i] = arr[i] * arr[i] - arr[i];
    }
}

int main() {
    int arr[3] = {1, 2, 3};
    fun(arr, 3);
    for(int i = 0; i < 3; i++) {
        cout << arr[i] << " ";
    }
    cout << endl;
    return 0;
}
```

☐ a. 1 4 9

☐ b. 1 2 3

☒ c. 0 2 6

☐ d. 2 4 6

Yes, the answer is correct.

Score: 1

Accepted Answers:

c. 0 2 6

12) If the sequence of numbers

**1 point**

**2,6,12,20,30,...**

continues in the same pattern, what will be the 7th term in the sequence?

☒ a. 56

☐ b. 72

☐ c. 42

☐ d. 48

Yes, the answer is correct.

Score: 1

Accepted Answers:

a. 56

13) Consider the following C code snippet. What will be the output?

**1 point**

```
#include <stdio.h>

void func(int arr[], int size) {
    for (int i = 0; i < size; i++) {
        arr[i] += 5;
    }
}

int main() {
    int arr[] = {1, 2, 3, 4, 5};
    int size = sizeof(arr) / sizeof(arr[0]);
    func(arr, size);
    for (int i = 0; i < size; i++) {
        printf("%d ", arr[i]);
    }
    return 0;
}
```

☐ a. 1 2 3 4 5

☒ b. 6 7 8 9 10

☐ c. 5 4 3 2 1

☐ d. 6 7 8 9 11

Yes, the answer is correct.

Score: 1

Accepted Answers:

*b. 6 7 8 9 10*

14) In C++, which of the following operators can be overloaded?

**1 point**

☐ a. :: (scope resolution operator)

☐ b. . (member access operator)

☒ c. + (addition operator)

☐ d. ?: (ternary operator)

Yes, the answer is correct.

Score: 1

Accepted Answers:

*c. + (addition operator)*

15) Which of the following is true about the new keyword in C++?

**1 point**

☐ a. It allocates memory on the stack

☒ b. It allocates memory on the heap

☐ c. It does not initialize the allocated memory

☐ d. It can only be used with primitive types

Yes, the answer is correct.

Score: 1

Accepted Answers:

*b. It allocates memory on the heap*

**Check Answers and Submit**

Your score is: 15/15