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reviewer4@nptel.iitm.ac.in ✓

NPTEL (<https://swayam.gov.in/explorer?ncCode=NPTEL>) » **An Introduction To Programming Through C++**
(course)

Announcements (announcements) **About the Course** (https://swayam.gov.in/nd1_noc20_cs53/preview)

Ask a Question (forum) Progress (student/home) Mentor (student/mentor)

Unit 5 - Week 3

Course outline

How does an NPTEL online course work?

Week 0

Week 1

Week 2

Week 3

- ☒ Lecture 6 Part 1
: Conditional Execution (unit? unit=45&lesson=46)
- ☒ Lecture 6 Part 2
: Most general form of if (unit? unit=45&lesson=47)
- ☒ Lecture 6 Part 3
: More general form of conditions (unit? unit=45&lesson=48)
- ☐ Lecture 6 Part 4
: A somewhat large program

Week3 Quiz

The due date for submitting this assignment has passed. Due on 2020-02-19, 23:59 IST. As per our records you have not submitted this assignment.

A manufacturer sells an item for Rs. 100 each. For the first 100 items there is no discount. If you order between 101 and 200 items there is a 10 % discount on each item other than the first 100. If you order more than 200 items, then for the first 100 there is no discount; for the next 100 there is a 10 % discount, and for each item above 200 there is a 20 % discount. Thus if you order 30, the cost is Rs 3000. If you order 130, the cost is Rs. 12700. If you order 230, then the cost is Rs. 10000+9000+2400 = 21400. The following program fragment is supposed to calculate the cost.

```
int quantity; cin >> quantity;
int cost = 0; // newly added
if(quantity <= 100) cost = blankA1 + quantity * blankA2;
else if(quantity <= 200) cost = blankB1 + quantity * blankB2;
else cost = blankC1 + quantity * blankC2;
cout << cost;
```

In the above, all the blanks are to be filled using just numbers (no expressions or variables allowed). Also, if multiple values are asked give them comma separated. Do not use any spaces or tabs.

1) What is the value of blankA1?

example (unit?
unit=45&lesson=49)

☐ Lecture 6 Part 5
: Switch
statement and
logical data
(unit?
unit=45&lesson=50)

☒ Lecture 7 Part 1
: Loops (unit?
unit=45&lesson=51)

☐ Lecture 7 Part 2
: Mark
averaging (unit?
unit=45&lesson=52)

☐ Lecture 7 Part 3
: The break and
continue
statements
(unit?
unit=45&lesson=53)

☐ Lecture 7 Part 4
: The for
statement (unit?
unit=45&lesson=55)

☒ Lecture 7 Part 5
: Euclid's
algorithm for
GCD (unit?
unit=45&lesson=54)

☐ Lecture 7 Part 6
: Correctness
proof for GCD
(unit?
unit=45&lesson=56)

☐ **Quiz : Week3
Quiz
(assessment?
name=167)**

☐ Week3
Programming
Assignment 1
(/noc20_cs53/progassignment?
name=170)

☐ Week 3
Programmng
Assignment 2
(/noc20_cs53/progassignment?
name=171)

☐ Download
Videos (unit?
unit=45&lesson=179)

☐ Weekly
Feedback (unit?
unit=45&lesson=191)

No, the answer is incorrect.
Score: 0

Accepted Answers:
(Type: Numeric) 0

1 point

2) What is the value of blankA2?

No, the answer is incorrect.
Score: 0

Accepted Answers:
(Type: Numeric) 100

1 point

3) What is the value of blankB1?

No, the answer is incorrect.
Score: 0

Accepted Answers:
(Type: Numeric) 1000

1 point

4) What is the value of blankB2?

No, the answer is incorrect.
Score: 0

Accepted Answers:
(Type: Numeric) 90

1 point

5) What is the value of blankC1?

No, the answer is incorrect.
Score: 0

Accepted Answers:
(Type: Numeric) 3000

1 point

6) What is the value of blankC2?

No, the answer is incorrect.
Score: 0

Accepted Answers:
(Type: Numeric) 80

1 point

The following program fragment is supposed to count the number of 'a's

Week 4**Week 5****Week 6****Week 7****Week 8****Week 9****Week 10****Week 11****Week 12****Text Transcripts**

read until the character '.' is encountered. For example, if the input is "kangaroos are fantastic.", the output should be 5.

```
int aCount=0;
while(true){
    char c; cin >> c;
    if(blankD) blankE = blankF;
}
cout << aCount << endl;
```

Do not use any spaces in the answers to the following questions, i.e. if you want to write p+q, do not put spaces before or after the +.

7) What is the value of blankD?

1 point

- ☐ c==1
- ☐ c=='a'
- ☐ c<5
- ☐ 'a'==c

No, the answer is incorrect.

Score: 0

Accepted Answers:

c=='a'

'a'==c

8) What is the value of blankE? Do not specify spaces or tabs while writing the answer.

No, the answer is incorrect.

Score: 0

Accepted Answers:

(Type: String) aCount

1 point

9) What is the value of blankF? Choose all the answers that you think are correct.

1 point

- ☐ aCount+1
- ☐ aCount--
- ☐ 1+aCount
- ☐ aCount-'a'

No, the answer is incorrect.

Score: 0

Accepted Answers:

aCount+1

1+aCount

10) The following program is a slight modification of the first program we saw for determining whether a number is prime.

```
main_program{
    int n, divisor=2; cin >> n;
    bool divisorFound = false;
    repeat(n-2){
        if(n % divisor == 0){
```

```

        divisorFound = true;
        blankJ;
    }
    divisor = divisor + 1;
}
if(!divisorFound) cout <<"Prime.\n";
else cout <<"Composite.\n";
}

```

What should blankJ be replaced by so that this program will correctly determine whether n is prime?

No, the answer is incorrect.

Score: 0

Accepted Answers:

String containing any of these (OR): break

1 point

11) What does the following program print?

```

int n=235;
for( ; n>0; n = n/10)
    cout << n % 10 << endl;
}

```

Give the values printed, separated by commas. Do not give any spaces or tabs.

No, the answer is incorrect.

Score: 0

Accepted Answers:

(Type: String) 5,3,2

1 point

12) If the program in the previous question is modified to read 'n' from keyboard (instead of assigning a constant inside the program). In general, what does such a modified program print?

1 point

☐

The program prints digits of n, from the most significant to least significant, for all positive integers n.

☐

The program prints digits of n, from the least significant to most significant, for all positive integers n.

☐

The program prints digits of n, from the most significant to least significant, for all non-negative integers n.

☐

The program prints digits of n, from the least significant to most significant, for all non-negative integers n.

No, the answer is incorrect.

Score: 0

Accepted Answers:

The program prints digits of n, from the least significant to most significant, for all positive integers n.

13) What will the following program fragment print?

```
int d = 0;  
for(int i=1; i<100; i=i*2) d = d + i;  
cout << d;
```

No, the answer is incorrect.
Score: 0

Accepted Answers:
(Type: Numeric) 127

1 point