Computer Applications (Commerce)
Chapter 1
Review of C++ Programming

Introduction

The learner has learned about basic concepts of C++ language in the previous year. This chapter is actually a quick refreshment of the concepts and skills they acquired about C++ programming ideas in the last year. Some advanced features of loops like nested loop and jump statements are also discussed in this chapter. We know that the control statements are the backbones of a computer program. From this chapter, the learners should get a strong concept about writing programs including various control structures. The teacher should provide learners with maximum number of sample programs to create a solid idea on programming.

Values and attitudes:

✓ Improves decision making capability.

✓ Becomes a successful hands-on practice on C++ programs with different types of control statements.

✓ Increases the logical reasoning power.

✓ Appreciates C++ programming for problem solving.

Unit Frame   Time: 20 Periods

Concept /Idea and Process Skills	Process / Activity with Assessment	Learning Outcome
Basics of C++ Control statements Looping statements. ✓ *Understanding* ✓ *Communicating* ✓ *Observing* ✓ *Analysing*	A **Group Quiz** is conducted to evaluate the concepts they acquired in the last year. **Lab work** to familiarise the execution of C++ programs with various control structures. A **class test** is conducted to get the correct picture of acquired knowledge of learners about C++ they had studied in the previous year. If not satisfied, remedial measures should be taken by the teacher.	1. Uses input statements in programs to enter data into the computer. 2. Uses output statements in programs to display various forms of output. 3. Applies various forms of `if` statements to make decisions while solving problems. 4. Compares `else if` ladder and `switch` statement. 5. Distinguishes different looping statements of C++.

	Assessment: Work sheet 1.1 Preparation of chart to display the characteristics of different loops. Preparation of notes.	

• Nested loops
 	
  ✓ *Understanding*
  ✓ *Communicating*
  ✓ *Observing*
  ✓ Analysing
	A general discussion is conducted on nested loops.
	
	Lab work to familiarise the execution of nested loops.
	
	Assessment:
	
	Preparation of notes.
		Uses the concept of nested loop in problem solving and predicts the output.

• Jump statements 'break' , 'continue', 'goto' and exit() function	A general discussion is conducted on nested loops. **Lab work** to familiarise the execution of various loops using the concept of nesting. Assessment: Preparation of **chart** shows the characteristics of different jump statements. Preparation of notes. Worksheet 1.2	Identifies the effect of `break` and `continue` statements in loops by explaining their effect on the program flow.

Towards the Unit…

Content   1.1 Review of C++ (2 periods)

Suggested activity: Group quiz to revise the basic concepts of C++ programming , Notes preparation.

Students are divided into several groups and each group is assigned a job of preparing different questions (objective type) based on the topic they had learned in the previous year.

The group leader should ensure the participation of all the group members in the drafting of questions.

The accuracy of the questions is evaluated by peer evaluation of group members.

Teacher announces the rules of the quiz.

The group which tells the correct answer gets 2 points. If a group could not answer the question, the question is passed to the next group in the clock wise direction. If the question is evaluated as invalid, a negative mark is given to the team which raises the question.

The group leader should ensure the participation of all the group members in the quiz programme by providing opportunity to ask questions and to answer.

If a question is not answered by any of the groups, teacher takes suitable strategies to transact the concept.

All group members should note the question and answer in their log book.

The team which scored maximum points is declared as the winner and prizes are given to them.

Process Assessment

General discussions, Group quiz, Activity Log preparation, Lab work

Portfolio Assessment

Activity Log, CPP files, Observation Book

Unit-wise Assessment

✓ Written test can be conducted using the questions given in the *Let us do* boxes, *Check yourself* boxes and *Sample questions* provided in the Textbook.

✓ Lab activity

PE Questions
Refer the questions given in the Textbook.

Work sheet 1.1

1. How is decision making implemented in a C++program?
2. Write the four components of a loop.
3. Write the names of entry controlled loops.
4. Which loop is called exit controlled loop? Why?
5. Why are for and while loops called entry controlled loops?
6. Write the significance of 'break' statement in switch statement.

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1. ………. statement is used for unconditional   jump in a program
2. ………… is the keyword used with goto statement.
3. In a nested loop, the outer loop variable updates its value only when ………………
4. ……. statement is used to exit a loop even if the condition is true.

TE Questions

Qn: 1.   LO: 1.3   Type: Objective   Score: 3

Read the following program code segment:

```
if (num>0)
        cout<<num++;
    else
        cout<<--num;
```

(a) What will be the output of this code, if the initial value of num is 10?
(b) What will be the output of this code, if the initial value of num is 0?
(c) What will be the output of this code, if the initial value of num is -5?

PS: CA   Time: 3 minutes

SI: a)10   b)-1   c) -6

Qn: 2.   LO: 1.3   Type: Objective   Score : 2

Predict the output of the following program code fragment for the two cases given below:

```
int val, res, n=1000;
cin>>val;
res = n+val > 1800 ? 400 : 200;
cout<<res;
```

(a) If the input value is 500
(b) If the input is 1000.

PS : CA   Time : 2 minutes

SI: a) 200   b) 400

Qn:3   LO: 1.4   Type: Short answer   Score : 3

Predict the output of the following program code if we give

i)   0 as input   ii) 2 as input
ii)   7 as input
Justify your answer.

```
        int a;

        cin>>a;

        switch(a)

        {

                case 0 : cout<<" Zero   ";

                case 1 : cout<<" One   ";

                case 2 : cout<<" Two   ";

                        break;

                default :   cout<<"invalid number";

        }
```

PS : CA   Time : 4 minutes

SI: i) Zero One Two No 'break' statement after each statement.
     ii) Two
     iii) invalid number

Qn: 4   LO: 1.4   Type: Short Answer   Score : 3

Consider the following statements in C++. Re-write this using *if .... else*

```
    switch(ch)

    {

    case 'a' : cout<<"Apple";

            break;

    case 'b' : cout<<"Ball";

            break;

    case 'c' :   cout<<"Cat";

            break;

    default : cout<<"Invalid choice";

    }
```

PS: CG   Time: 3 minutes
SI: Correct code

Qn: 5   LO: 1.3   Type: Short Answer   Score : 3
Replace the following conditional statement with 'if' statement in C++.

```
        min=(a<b) ? (a<c? a:c) : (b<c? b:c);
```

5

PS: CG   Time : 3 minutes
SI: Correct code

Qn : 6   LO : 1.6   Type: Short answer   Score: 2

Consider the following program segment. How many times the text "welcome" will be

printed on screen? State the reason.

```
for(i=0 ; i< 10; i=i+2) ;

        cout<<" welcome ";
```

PS: CG   Time : 3 minutes
SI: 1 time, because there is a ; (semi column) after the for loop

Qn : 7   LO: 1.6   Type: Objective   Score : 1

Read the following program code:

```
for (int i=1; i<5; i++);

    cout<<i;
```

Which of the following statements are correct?

(a) There is a syntax error in the loop.   (b) The numbers 1, 2, 3, ……., 9 will be printed.

(c) The number 10 will be displayed.   (d) Only the number 1 will be printed.

PS: CG   Time : 2 minutes
SI: The number 10 will be displayed

Qn : 8   LO: 1.6   Type: Objective   Score : 1

How many times the following loop will be executed?

```
int S = 0, i = 0;
do
{
    S+= i;
    i++;
} while(i < = 5);
```

PS: CG   Time : 2 minutes
SI: 6 times

Qn : 9   LO: 1.9   Type: Objective   Score : 1

A break statement causes an exit

        (a) only from the innermost loop   (b) only from the innermost switch
        (c) from all loops and switches   (d) from the innermost loop or switch

Qn : 10   LO: 1.9   Type: Objective   Score : 1

The exit ( ) function breaks out of

(a) the function it appears in   (b) The loop it appears in

(c) The block it appears in   (d) The program it appears in

PS: CG   Time : 1 minutes
SI: (d).

Qn : 11   LO: 1.4   Type: Short answer   Score : 3

Write a switch construct to get the following result.

```
If total marks >=90 Grade A.
80<= total marks <90 Grade B
70<= total marks < 80 Grade C
total marks < 70 Failed
```

PS: CG   Time : 5 minutes
SI: Correct code using switch   (perc = marks/10;   switch(perc)….)

Qn : 12   LO: 1.8   Type: Essay   Score : 5

Qn: Write down the code segment for the output given below:

```
1
3
5
7
9
The sum is 25
```

PS: CG   Time : 7 minutes

SI: Correct code segment

Qn : 13   LO: 1.8   Type: Essay   Score : 5

Rewrite the following code using while loop and do while loop.

```
for(int i=2, sum=0; i <= 20; i=i+2)
      sum += i;
```

PS: CG   Time : 10 minutes

SI: Correct code

Qn : 14   LO : 1.8   Type: Short answer   Score : 3

Rewrite the following code using do – while loop

```
for( s=0,i=1;i<=10; s+=i,++i) ;
    cout<<s;
```

PS: CG   Time : 8 minutes

SI: Correct code

Qn : 15   LO: 1.7   Type: Short answer   Score : 3

Predict the output of the following program code.

```
for( a=5; a<=7; ++a)
{
    for(b=1; b<=3; ++b)
    {
        cout<< "\n" <<  a << " X" <<b << "="<<a*b;
    }
}
```

PS: CG   Time : 8 minutes

SI: Correct code.

Qn : 16   LO :1.8   Type: Short answer   Score : 3

Differentiate 'break' and 'continue' statements**.**

PS: CG   Time : 5minutes

SI: Correct answer.

Qn : 15   LO: 1.8   Type: Short answer   Score : 3

Predict the output for the following program code:

```
for (i=1;i<=10;++i)
{
    if (i==7)
        continue;
    cout<<"\t";
    cout<< "i;
}
```

PS: CG   Time : 8 minutes

SI: 1   2   3   4   5   6   8   9   10

Qn : 16   LO: 1.8   Type: Essay   Score : 5

Write a program to produce the following design:

        A
        B B
        C C   C
        D D   D   D

PS : CG   Time : 10 minutes

SI: Correct code using nested loop

Qn : 17   LO: 1.8   Type: Essay   Score : 5

Write a program to produce the following design

        4
        4   3
        4   3   2
        4   3   2   1

 PS: CG   Time : 10 minutes

SI: Correct code using nested loop

Qn : 18   LO: 1.8   Type: Essay   Score : 5

Write a program to find the sum of first N natural numbers using

        a) Entry controlled loop
        b) Exit controlled loop

 PS: CG   Time : 10 minutes

SI: Correct code

Qn : 19   LO: 1.6   Type: Short answer   Score : 4

Identify the four components of the loop given below and fill up the second column of the table.

```
for(int n=125, s=0; n>0; s+=n%10, n/=10);
```

Initialisation expression	
Test expression	
Update expression	
Body of the loop	

 PS: CG   Time : 5 minutes

SI: Correct answer

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Computer Applications (Commerce)
Chapter 2
Arrays

Introduction

In the plus 1 programming classes, students must have familiarized with the basics of C++ programming and usage of control statements in coding. But there may be situations where we need many variables of the same data type. There we need to introduce alternate solution to address the variables. The grouping up of related variables together is discussed in this chapter. At this stage the learner identifies the difference between a single variable and an array. The learner must recognise the advantages of using the arrays in programs. Teacher is expected to make use of real life cases for introducing the concept of arrays. This unit explores single dimensional and two dimensional arrays and their usage in programming. The learners are exposed to the creation and initialization of arrays. Later, various operations on arrays are discussed with relevant algorithm. Towards the end, operations on two dimensional arrays are also detailed using matrix as example. The teacher can give maximum sample programs to create a concrete idea on arrays.

Values and Attitudes

- Problem solving using the ideas of sharing and collaborating the resources.
- Crave for the best and ideal way to optimize the results.
- Explore the new ways to reach the solution with minimum effort and time.

Unit Frame

Concepts / Ideas and Process skills	Process / Activities with Assessment	Learning outcomes
Concept of arrays and its need in problem solving ✓ Communicating ✓ Understanding	General discussion on the concept of arrays by taking real life examples. Discussion on the need for grouping variables of similar data type. Assessment ➢ Preparation of notes	1. Recognises the need for arrays. 2. Identifies the situations where an array can be used. 3. Uses arrays to refer to a group of data.
Declaration of arrays, memory allocation, initialization and accessing elements in an array. ✓ Identifying ✓ Illustrating ✓ Communicating ✓ Familiarising	General discussion followed by illustration. Problem solving, Lab work etc. Assessment ➢ Notes preparation, Lab assignment	4. Declares an array and design the way of coding. 5. Identifies how memory allocation is done for array.
Array operation - Traversal ✓ Communicating ✓ Problem solving ✓ Experimenting	General discussion followed by demonstration with the help of computer and LCD projector or chart or blackboard. Problem solving. Assessment: ➢ Worksheet, Lab Assignment, Preparation of notes	6. Accesses the elements in an array. 7. Develops program for array traversal.

Problem solving using arrays ✓ Communicating ✓ Identifying ✓ Problem solving ✓ ICT skills	Group discussion followed by illustration or demonstration using computer and LCD projector. Lab work. Assessment ➢ Lab assignment, output prediction, error correction, etc.	8. Solves problems in which large amount of data is to be processed.
String handling using arrays and the concept of memory allocation. ✓ Communicating ✓ Problem solving ✓ Experimenting	Discussion followed by illustration. Problem solving. Assessment ➢ Worksheet, Lab assignment, Preparation of notes	9. Represent string using character arrays. 10. Memory allocation for strings.
Input-Output operations using arrays. ✓ Understanding ✓ Communicating ✓ Familiarising ✓ Problem solving	General discussion on various operations using character arrays. Problem solving using real-life cases. Demonstration using slides, lab demonstration. Assessment ➢ Preparation of notes, Lab assignment, worksheet	11. Carries out various word processing operations using character arrays.

Process Assessment

- ✓ Problem solving using arrays.
- ✓ Demonstration of Traversal by students.
- ✓ Assignment on the topic 'String handling using Arrays'.
- ✓ Lab work on problem solving using arrays, traversal etc.

Portfolio Assessment

- ✓ Activity log book.
- ✓ Assignments.
- ✓ Worksheets.
- ✓ Practical Log Book.

Unit Assessment

- ✓ Lab test
- ✓ Written tests on selected topics
    - o Students can be assigned to prepare questions based on the topic.
    - o The questions brought by the students must be analysed by the teacher and modifications can be suggested.
    - o The teacher can also contribute questions so that a pool of questions can be collected.
    - o Each Learner can pick two questions from the pool and answer those questions.

Towards the Units

The teaching-learning activities for this chapter can be general discussion, group discussion, lab demonstration, illustration etc. The teacher has the freedom to transact the content by performing any suitable activity.

For assessment the teacher can conduct activities like worksheets, assignment, writing sample programs etc. and the hard copies of tests, assignment, worksheets etc. can be kept as part of portfolio.

Following are the details of some typical teaching-learning activities identified for this chapter.

Need of Arrays **Period- 1**

Suggested Activity- Group discussion

The teacher begins the class by asking some questions and reminds the class about concept of variables, they have studied in Plus1 class.

Teacher divides the students into four groups for conducting a group discussion. He / She initiate the group activity by giving some discussion points.

- Teacher asks each group to declare one variable to store the mark of one student in the class test for Computer Applications.

- Learners respond. Allow them for a peer evaluation in the group.

- Teacher evaluates.

- Teacher wanted the learners to declare variables for accepting the marks of six students in the class.

- Learners respond by declaring six independent integer variables (possibly). The variable names may be a, b, c, d etc. or m1, m2, m3, m4 etc.

- Give the learners a chance for peer evaluation.

- Teacher again asks the students to declare variables for storing the marks of sixty students in the class.

- Learners find it tedious and time consuming to declare too many variables of same type.

- Each group discusses among themselves and presents their findings.

- Teacher evaluates.

- Teacher consolidates the discussion by introducing the need for declaring arrays and the syntax of array declaration.

- Instructs the students to prepare notes.

Array operation – Traversal **Period- 2**

Suggested Activity- Demonstration followed by discussion

- The teacher initiates the discussion by posing some questions related to this topic. The questions can be as follows:
  - ✓ How do you declare 20 variables of integer type using a single C++ statement?
  - ✓ Which is the lowest index of an array?

- ✓ How do you store 20 numbers into the above array?

- ✓ How do you print the array elements?

(The questions can vary according to the teacher)

- The learners respond and write C++ statements in the book.

- The teacher takes a bunch of twenty paper cards. Each card contains a number. He / She give one bunch to a student and ask him to find the sum of all the numbers labeled in the cards.

- The learner goes through all the cards and note down the labeled number on a sheet of paper. He actually processes the bunch of cards.

- The teacher invites the attention of the students by comparing the bunch of cards with array. Each of the cards represents the array element and the labeled number, the content of the array variable.

(The teacher can use some other real life examples for explaining traversal. A student visits all the classes in the school with a notice from the Principal, the newspaper boy goes to each and every house one after another for dropping news paper in the morning etc.)

- Teacher introduces the array operation traversal.

- Teacher illustrates traversal by solving a simple problem.

- The teacher instructs the learners to note down the algorithm /points.

Memory allocation for strings   **Period - 2**

Suggested Activity- Role-play

A role-play can be conducted based on this topic. Teacher identifies some students from the class, prior to this activity.

The activity is initiated by a general talk/discussion by the teacher about the memory allocation.

- The teacher wants the learners to stand side-by-side in a row (similar to an array). One row contains 3 students; another one contains 4 and yet another one with 5. So there are three different arrays with different size.

- The teacher writes a word on the black-board. For example he writes the name 'RAJU'.

- The teacher wants the first set of students (size 3) to come forward and take the name on the board. The first student has to speak out the letter 'R', that means allocating space for that letter. The next student in the row

speaks out 'A' and so on. Finally nobody to speak out the last letter. So students identifies that the size is insufficient.

- The teacher again wants the second set with size 4 to try out the same activity. In this case, the students find difficulty to hold the null character ('\0') as the last character.

- The teacher finally wants the third set of students (size 5) to do the same. In this case there is sufficient space for holding the characters in the string and the null character.

- Teacher monitors the play and the same can be repeated with another string and another set of students.

- Teacher consolidates the activity by reinforcing the concept of memory allocation for strings. He compares the memory allocation of arrays while storing numbers. Ask the learners to find out the main difference.

- Students note down the valid points.

TE Questions

1. L.O 2.1 Type: Objective Score – 1

Which of the following is the correct declaration of an array?

   a. int m(10)   b. int [10]m   c. m[10] int   d. int m[10]

Process skill – CA   Time – 1 mt.

Scoring Indicator – d.

2. L.O 2.1 Type: Objective Score – 1

Identify the last index of the array float P[8] from the following choices.

   a. 7   b. 8   c. 0   d. 9

Process skill – CA   Time – 1 mt.

Scoring Indicator – a.

3. L.O 2.4 Type: Objective Score – 1

Consider the following C++ statements:

     int A[4] = {1,2,3,4};

     int B = (A[3]+A[0]+A[2]) / A[1];

Predict the value of the variable 'B'

Process skill – CG   Time – 1 mt.

Scoring Indicator –   4

4. L.O 2.4   Type: Objective   Score – 1

Consider the following array declaration

      int A[ ]={4,5,8} ;   int B[ ]={2,10};

Write a valid C++ statement for finding the difference between the last element of the array 'B' and the first element of the array 'A'

Process skill – CG   Time – 1 mt.

Scoring Indicator –   B[1] – A[0];

5. L.O 2.6   Type: Objective   Score – 1

Write a statement for storing the string "NO SMOKING" using a character array with name 'ARR' of minimum size

Process skill – CA   Time – 1 mt.

Scoring Indicator –   char ARR[11]= "NO SMOKING";   or   ARR[ ]= "NO SMOKING";

6. L.O 2.4   Type: Objective   Score – 1

Suppose 'NUM' is an array containing integer numbers. Identify the name of the operation in which all the elements of the array is increased by 1.

Process skill – CA   Time – 1 mt.

Scoring Indicator – Traversal

7. L.O 2.4   Type: Objective   Score – 1

If 'M[20]' is an array, then which element of the array will be referenced by 'M[11]' ?

Process skill – CA   Time – 1 mt.

Scoring Indicator :   12th element of the array

8. L.O 2.6   Type: Objective   Score – 1

How many bytes will be allocated in the memory for the string "MY SCHOOL"?

Process skill – CA   Time – 1 mt.

Scoring Indicator :   10 bytes

9. L.O 2.7   Type: Objective   Score – 1

Predict the output after executing the following statements if the string entered is "Computer Applications".

```
char WORD[15];
cin>>WORD;
cout<<WORD;
```

Process skill – CA   Time – 1 mt.

Scoring Indicator :   Computer

10. L.O 2.6   Type: Objective   Score – 1

Consider the following statement and predict the error in the output

```
char N[ ]="123";
cout<<(N[0]+N[1]+N[2]);
```

Process skill – CG   Time – 1 mt.

Scoring Indicator: Since 'N' is a character array the individual elements will be treated as characters. Therefore addition is not possible.

11. L.O 2.3   Type: Short answer   Score – 2

Suppose you need to store the numbers 5, 2.4, 0.1 and 8 into an array with name 'NUM'. Write two possible solutions to this problem (write the C++ statement).

Process skill – CA   Time – 4 mts.

Scoring Indicator: 1 score for each correct answer.

Method 1

```
float NUM[4] = {5, 2.4, 0.1, 8};
```

Method 2

```
float NUM[ ] = {5, 2.4, 0.1, 8};
```

12. L.O 2.4   Type: Short answer   Score – 2

Predict the output of the following code

```
int a[5], sum, i;
for( i=0; i<5; i++)
{
    a[i] = i+1;
    sum+=a[i];
}
cout<<sum;
```

Process skill – CG   Time – 4 mts.

Scoring Indicator : 15

13. L.O 2.4   Type: Short answer   Score – 2

A student used two different statements for reading a string "RAM KUMAR" as follows. In both cases the string is printed. Compare the outputs and give reason.

Method 1	**Method 2**
char AR[20];	char AR[20];
cin>>AR;	gets(AR);
cout<<AR;	cout<<AR;

Process skill – CG   Time – 4 mts.

Scoring Indicator – In the first method, the output will be RAM and in the second case, the output will be RAM KUMAR. Correct output 1 score and correct explanation 1 score.

14. L.O 2.4   Type: Short answer   Score – 2

Consider the following statements and predict the output

```
int N[ ]={ 2, 5, 6, 3, 7, 4};
for(int i=0; i<6; i++)
 {
 if(N[i]%2==0)
   s=s+N[i];
 }
```

cout<<s;

Process skill – CG   Time – 4 mts.

Scoring Indicator: 12 (sum of all even numbers).

15. L.O 2.6   Type: Short answer   Score – 3

Write suitable statements to accept a string from the keyboard and find the length of it. For example if "WELCOME" is accepted, the output will be 7.

Process skill – CA   Time – 4 mts.

Scoring Indicator: For the correct statements 2 scores.

16. L.O 2.4   Type: Short answer type   Score – 3

Write statements to declare an array and initialize it with the numbers 1,2,3,4,5 and print 5,4,3,2,1.

Process skill – CA   Time – 5 mts.

Scoring Indicator: Correct code 3 scores.

17. L.O 2.1 and 2.2   Type: Short answer type   Score – 3

Write array declarations for the following

    a. To store the heights of 25 students in your class.

    b. To store the name of your school.

    c. To store all odd numbers between 2 to 20.

Process skill – CA   Time – 4 mts.

Scoring Indicator: a. float m[25],   b. char name[50], c. int n[9]. 1 score each.

18. L.O 2.6   Type: Short answer   Score – 2

Consider the following cases and predict the output:

    i. char ch[ ] = "hai"; cout<<"hello"; cout<<ch;

    ii. char ch[ ] = "hai"; puts("hello"); puts(ch);

Process skill – CA   Time – 4 mts.

Scoring Indicator: Case 1 – hai   hello (printing in the same line)- 1 score

Case 2 – Prints in separate lines – 1 score

Hai

hello

19. L.O 2.6   Type: Short answer   Score – 3

Write statements to store the string "INDIA" in an array and print as follows:

I

N

D

I

A

Process skill – CA   Time – 6 mts.

Scoring Indicator: Names of categories (cyber crime against individual, against property, against government) - ½ score each. For correct explanation / definition of each category – ½ score each.

20. L.O 2.4   Type: Essay   Score – 3

Predict the output of the following code fragment:

```
int K[ ]={1, 2, 3, 4};
for(int i=0; i<4; i++)
  cout<<K[i] * K[i]<<"\t";
```

Process skill – CA   Time – 6 mts.

Scoring Indicator : Correct output (1   4   9   16) 3 scores.

21. L.O 2.5   Type: Short answer   Score – 3

Write C++ statements to accept marks of 6 subjects of a student using an array and calculate his total mark and average (complete program not needed).

Process skill – CA   Time – 6 mts.

Scoring Indicator: Correct code 3 scores.

22. L.O 2.4   Type: Short answer   Score – 3

Consider the following array declaration. Write statements to count how many numbers are greater than zero.

     int p[ ]= { -5, 6, -7, 0, 8, 9};

Process skill – CA   Time – 6 mts.

Scoring Indicator: Correct code 3 scores.

23. L.O 2.6   Type: Essay   Score – 5

Write a C++ program to accept a sentence and count how many times the letter 's' is occurring in it. For example the sentence may be 'This is my school'.

Process skill – CA   Time – 12mts.

Scoring Indicator: Correct program 5 scores.

24. L.O 2.6   Type: Essay   Score – 5

Write a C++ program to store the given string in an array and reverse it. For example if ABCD is given, the output will be DCBA.

Process skill – CA   Time – 12 mts.

Scoring Indicator: Correct program 5 scores.

25. L.O 2.7   Type: Essay   Score – 5

Write a program to accept 10 integer numbers into an array and find the largest and second largest number. Print the result.

Process skill – CA   Time – 12 mts.

Scoring Indicator: Correct program 5 scores

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