### xLab No. 03

### Control/Decision Structure

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| Objectives | In this lab you will be introduce with:   * General If/Else statement * Nested If/Else Statement  Name umar zahidReg no 1654Submitted to sir Jasim Ali |

## Instructions

* This is individual Lab work/task.
* Complete this lab work within lab timing.
* Discussion with peers is not allowed.
* You can consult any book, notes & Internet.
* Copy paste from Internet will give you negative marks.
* Lab work is divided into small tasks, complete all tasks sequentially.
* Show solution of each lab task to your Lab Instructor.
* Paste your solution (i.e. code) in given space under each task.
* Upload on LMS before leaving lab.
* In-Lab Exercises/Tasks

## Review:

In a decision structure’s simplest form certain statements are executed only when…

A specific condition exists.

It is said that the statements inside of the decision structure are…

Conditionally executed.

Relational Operators determine whether…

A specific relationship exists between two values.

Some relational operators are…

>, < , >= , <= , == , !=

## General for of an if statement:

if(BooleanExpression)

statement;

if(BooleanExpression) {

statement1;

statement2;

...

}

## General form of an if-else statement:

if(BooleanExpression)

statement or block 1

else

statement or block 2

## Question No 1 Largest value among three

Write a program in C++ that take input of three integer ‘s numbers from user. Find the largest number among three of them.

*Code Area*

#include <iostream>

using namespace std;

int main()

{

int a,b,c;

cout << "Enter First Value: ";

cin >> a;

cout << "Enter Second Value: ";

cin >> b;

cout << "Enter Third Value: ";

cin >> c;

if (a>b && a>c)

{

cout <<a<< " is greater";

}

else if (b>a && b > c)

{

cout <<b<< " is greater";

}

else if ( c > a && c > b)

{

cout <<c<< "c is greater";

}

return 0;

}

## Question No 2 Grade Program using Nested If Else

Write a program in C++ using if/else operator with nested statements to find the grade of student.

The detail is as follow.

Grade>= 90 ------Grade A grade >= 80 ------Grade B grade >=70 --------Grade C grade >=60 -------Grade D

Code Area

#include<iostream>

using namespace std;

int main()

{

int mark;

cout <<"enter your mark" ;

cin>>mark;

if(mark>=90 && mark<=100)

{

cout <<"your grade is A";

}

else if(mark>=80 && mark<=89){

cout <<"your grade is B";

}

else if(mark>=70 && mark<=79){

cout <<"your grade is c";

}

else if(mark>=60 && mark<=69){

cout <<"your grade is d";

}

## Question No 3 vowel /Consonant

Write a programing C++ to input a single character and print a message―It is

Vowel. If it is vowel otherwise print message. It is a "consonant―Use if-else structure and OR (||) operator only.

#include<iostream>

using namespace std;

int main()

{

char n ;

cout <<"enter a number";

cin>>n;

if(n=='a' || n=='A'){

cout << " you enter a vowel number";

}

else if (n=='e'|| n=='E'){

cout<<" you enter a vowel number";

}

else if (n=='i'|| n=='I'){

cout<<" you enter a vowel number";

}

else if (n=='O'|| n=='o'){

cout<<"you enter a vowel number";

}

else if (n=='u'|| n=='U'){

cout<<" you enter vowel number";

}

else{

cout<<"you enter a constant";

}

}}

## Question No 4 Even /Odd

Write a Program in C++ that take an Integer Value from the user and tell that the number is EVEN or ODD.

Code Area

#include<iostream>

using namespace std;

int main()

{

int n;

cout<<"enter numbr";

cin>>n;

if(n%2==0)

{

cout<<"number is even you entered";

}

if(n%2!=0){

cout<<"you entered odd number";

}

}

## Question No 5 Capital / Small Letter

Write a program in C++ that take a single character from the user, and tells it's a Small Letter or it's a CAPITAL letter using nested if statement only.

Code Area

#include<iostream>

using namespace std;

int main()

{

char m;

cout<<"enter a char";

cin>>m;

if(m=='A' || m<='B'){

cout<<"number is capital";

}

if(m=='C' ||m=='D'){

cout<<"number is capital";

}

if(m=='E' ||m=='F'){

cout<<"number is capital";

}

if(m=='G' ||m=='H'){

cout<<"number is capital";

}

// smaller number

if(m=='a' ||m=='b'){

cout<<"number is smaller latter";

}

if(m=='c' ||m=='d'){

cout<<"number is smaller";

}

if(m=='e' ||m=='f'){

cout<<"number is smaller";

}

}

**Question No 06**: This program demonstrates the use of a switch statement.

Write program that simply tells the user what character they entered.

|  |
| --- |
| #include<iostream>  using namespace std;  int main()  {  char u;  cout<<" your choice";  cin>>u;  switch(u){  case 'a':  cout<<"you enter a";  break;  case 'b':  cout<<"you enter b";  break;  case 'c':  cout<<"you enter c";  break;  case 'd':  cout<<"you enter d";  break;  default:  cout<<" YOU ENTER A Wrong NUMBER";  }  } |