## Programming Fundamentals

## LAB MANUAL8

## 

**Implementation of different programs using decision (if-else, switch)**

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| 01-  #include <iostream>  #include<conio.h>  using namespace std;  int main()  {  char dir='a';  int x=10, y=10;  while( dir != '\r' ) //until Enter is typed  {  cout<< "\nYour location is "<< x << ", " << y;  cout<< "\nPress direction key (n, s, e, w): ";  dir = getche(); //get character  if( dir=='n') //go north  y--;  else if( dir=='s' ) //go south  y++;  else if( dir=='e' ) //go east  x++;  else if( dir=='w' ) //go west  x--;  } //end while  return 0;  } |
| --02 **switch without default case**  #include<iostream>  using namespace std;  main()  {  int speed; //turntable speed  cout<< "\nEnter 33, 45, or 78: ";  cin>> speed; //user enters speed  switch(speed) //selection based on speed  {  case 33: //user entered 33  cout<< "LP album\n";  break;  case 45: //user entered 45  cout<< "Single selection\n";  break;  case 78: //user entered 78  cout<< "Obsolete format\n";  break;  }  return 0;  } |

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| --- |
| --03 **switch with default case**  #include<iostream>  using namespace std;  main()  {  int speed; //turntable speed  cout<< "\n Enter 33, 45, or 78: ";  cin>> speed; //user enters speed  switch(speed) //selection based on speed  {  //something is missing here..?  case 33: //user entered 33  cout<< "LP album\n";  case 45: //user entered 45  cout<< "Single selection\n";  case 78: //user entered 78  cout<< "Obsolete format\n";  default:  cout<<"Invalid choice";  }  return 0;  } |

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| --04  **/\* Generation of fibonacci series**  **1 1 2 3 5 8 13 21 ………**  **Each term is found by adding the two previous ones: 1+1 is 2, 1+2 is 3,**  **2+3 is 5, 3+5 is 8, and so on. \*/**  #include<iostream>  using namespace std;  main()  {  long limit = 499999;  long secondlast=0;  long last=1;  while( last < limit )  {  cout<< last << " ";  long sum = secondlast + last;  secondlast = last;  last = sum;  }  cout<<endl;  return 0;  } |

05

///This example tells you whether a number you enter is a prime number. (Prime //numbers are integers divisible only by themselves and 1. The first few primes are 2, 3, //5, 7, 11, 13, 17.)

// demonstrates IF statement with prime numbers

#include <iostream>

using namespace std;

#include <process.h> //for exit()

int main()

{

unsigned long n, j;

cout<< "Enter a number: ";

cin>> n; //get number to test

for(j=2; j <= n/2; j++) //divide by every integer from

if(n%j == 0) //2 on up; if remainder is 0,

{ //it's divisible by j

cout<< "It's not prime; divisible by " << j <<endl;

exit(0); //exit from the program

}

cout<< "It's prime\n";

return 0;

}

06-

// example shows a switch statement based on a variable of type int. You can also //use type char. Here's our else-if program rewritten a switch:

#include <iostream>

using namespace std;

#include <conio.h> //for getche()

int main()

{

chardir='a';

int x=10, y=10;

while(dir != '\r' )

{

cout<< "\nYour location is " << x << ", " << y;

cout<< "\nEnter direction (n, s, e, w): ";

dir = getche(); //get character

switch(dir) //switch on it

{

case 'n': y--; break; //go north

case 's': y++; break; //go south

case 'e': x++; break; //go east

case 'w': x--; break; //go west

case '\r': cout<< "Exiting\n"; break; //Enter key

default: cout<< "Try again\n"; //unknown char

} //end switch

} //end while

return 0;

} //end main

**Task 1:**

Write a C++program in which user will enter start and end of range in integer .Program should display every **prime number between range**.

**Task2:**

Write [C++ Program to find perfect number](http://fahad-cprogramming.blogspot.com/2011/12/find-perfect-number-in-c.html)(Perfect number, a positive integer that is equal to the sum of its proper divisors.)

**Task3:**

Write C++ Program which takes input a grade and display Grade Points Average GPA using switch statement.