

PASS MOCK EXAM – *FOR PRACTICE ONLY*

Course:

ECOR 1606

Facilitator: Dane Levere

Dates and locations of mock exam take-up: Feb 5,6th (in workshop) Feb 9th SA 505 2-3:30pm

IMPORTANT:

It is **most beneficial** to you to write this mock midterm **UNDER EXAM CONDITIONS**. This means:

- Complete the midterm in 1hour 15 minutes
- Work on your own.
- Keep your notes and textbook closed.
- Attempt every question.

After the time limit, go back over your work with a different colour or on a separate piece of paper and try to do the questions you are unsure of. Record your ideas in the margins to remind yourself of what you were thinking when you take it up at PASS.

The purpose of this mock exam is to give you practice answering questions in a timed setting and to help you to gauge which aspects of the course content you know well and which are in need of further development and review. Use this mock exam as a ***learning tool*** in preparing for the actual exam.

Please note:

- Come to the PASS session with your mock exam complete. There, you can work with other students to review your work.
- Often, there is not enough time to review the entire exam in the PASS session. Decide which questions you most want to review – the Facilitator may ask students to vote on which questions they want to discuss.
- Facilitators do not bring copies of the mock exam to the session. Please print out and complete the exam before you attend.
- **Facilitators do not produce or distribute an answer key for mock exams.** Facilitators help students to work together to compare and assess the answers they have. If you are not able to attend the PASS session, you can work alone or with others in the class.

Good Luck writing the Mock Midterm!!

DISCLAIMER: PASS handouts are designed as a study aid only for use in PASS workshops. Handouts may contain errors, intentional or otherwise. It is up to the student to verify the information contained within.

PLEASE NOTE: THIS HANDOUT IS NOT TO BE DISTRIBUTED.

Question 1

Write a program that reads in two integer values and that outputs the sum of all of the odd numbers that lie between the two values (**including** the values themselves, if applicable). If either input is not an integer or is not positive, or if the first number is not less than the second number, just output an error message.

Important Notes: Your program should use a loop to calculate the product, i.e. you will lose marks if you use a formula to calculate the product. Your program must not have a sentinel loop. It should just deal with one set of inputs and stop. It is recommended that you use function isInt.

For example:

user inputs **6 & 10**

result should be **16** (7+9)

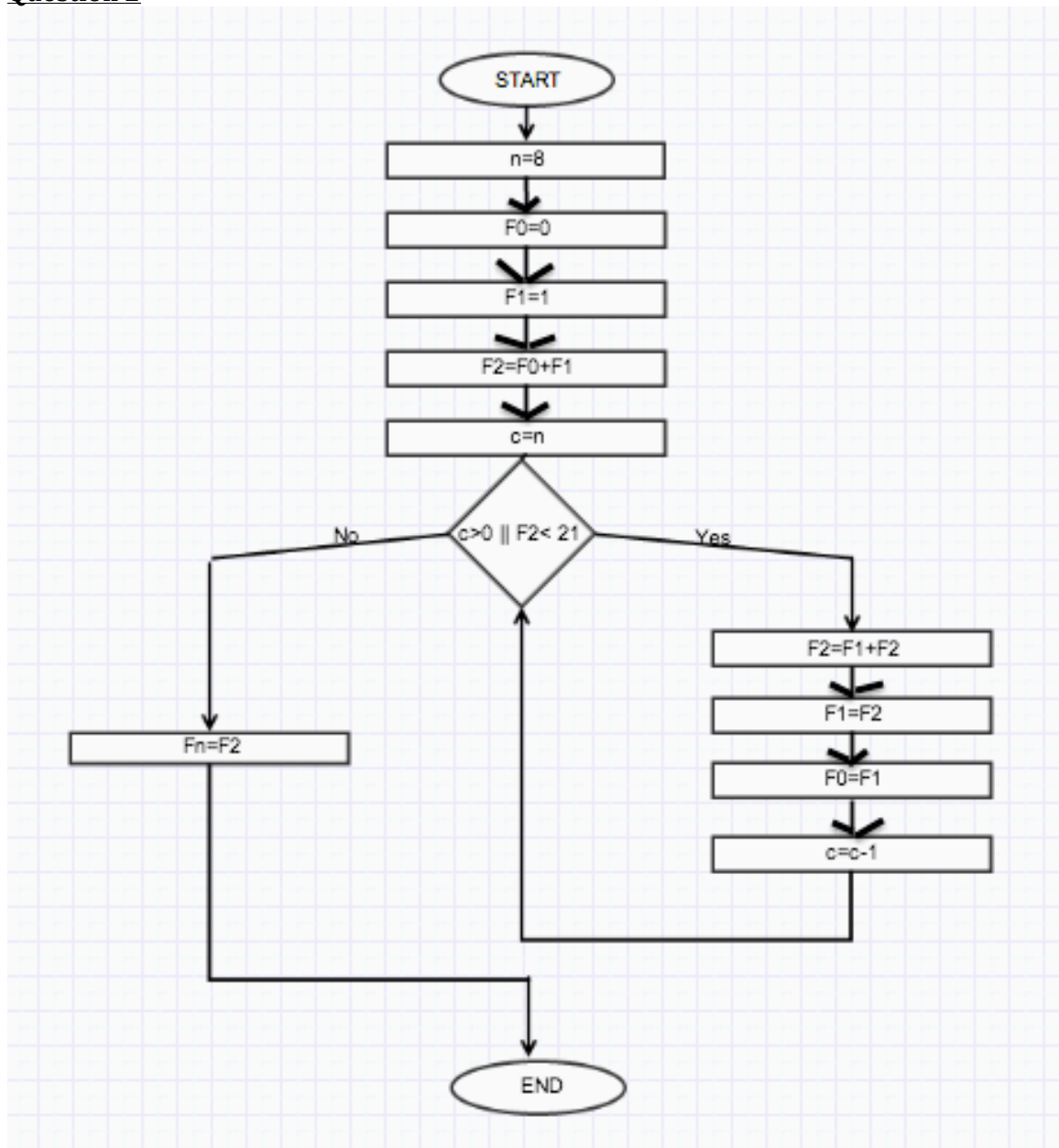
user input **7 & 3**

Error (first input > second)

User input **6.5 & 9**

Error (not an integer)

Question 2



i) what is the value of F_n after the execution of the above flowchart?

ii) Give the corresponding C++ code of the flowchart above. Declare the variables

Question 3

Output exactly what would appear in the input/output window

i)

```
double n=6;
double p=13;
if (p> n){
    n=n+p/2;
    cout <<p<<endl;
    cout<<" "<<n<<endl
}else{
    p=p/n;
    cout <<p;
    cout<<" "<<n<<endl;
} //endif
```

ii)

```
double a = 11;
double b = 20;
cout << 15/4*b << " ";
cout << a/4 << endl;
```

iii)

```
int a = 4;
int b = 7;
while (a < 7 || b <= 9) {
    a = a + 2;
    b = b + 1;
} //endwhile
cout << a << " " << b << endl;
```

Question 4

Complete the C++ statements below. (No declaration or comments required)

i) Assume three variables called a , b , and c . Looping is to continue as long as at least one of these variables is positive, and at least one is not negative. Do NOT make use of C++'s implicit conversions between "int" and "bool" quantities.

```
while ( _____ ) {
// do something
.... } // end while
```

ii) A given year is a leap year if it is divisible by 4 but not 100, but if it is divisible by 400 then it is a leap year.

```

If (                                     ){
// do something
    if (                               ){
        // do something
    }else{
        //do something
    }//endif
}else{
//do something
}//endif

```

iii) A price of 15 dollars and 35 dollars, **including** those two values, is considered to be an appropriate amount to pay for headphones. Assume the price of the headphones is stored in a variable called *price*.

```

if(                                     ){
cout << "That is in the price range." << endl;
} // end if

```

Question 5

The equation for a circle (at the origin) is $x^2+y^2=r^2$ where r is the radius. A point (x,y) is inside the circle if $x^2+y^2 < r^2$. Write a program that asks for an initial radius value. The radius must of course be larger than zero, and the program should keep asking for a radius until an appropriate value is entered. The program then repeatedly asks for two coordinates x and y , until $0\ 0$ is entered. After accepting each coordinate pair, the program determines if the point is in the circle, and displays an appropriate message. After $0\ 0$ is entered, the program displays the proportion of the points entered that were inside the circle.

Sample run:

Please enter a radius: **5**

Please enter a coordinate pair (0 0 to stop): **1 1**

Point is inside the circle.

Please enter a coordinate pair (0 0 to stop): **1 4**

Point is inside the circle.

Please enter a coordinate pair (0 0 to stop): **3 4**

Point is not inside the circle.

Please enter a coordinate pair (0 0 to stop): **0 0**

Proportion of points inside the circle was 0.666667