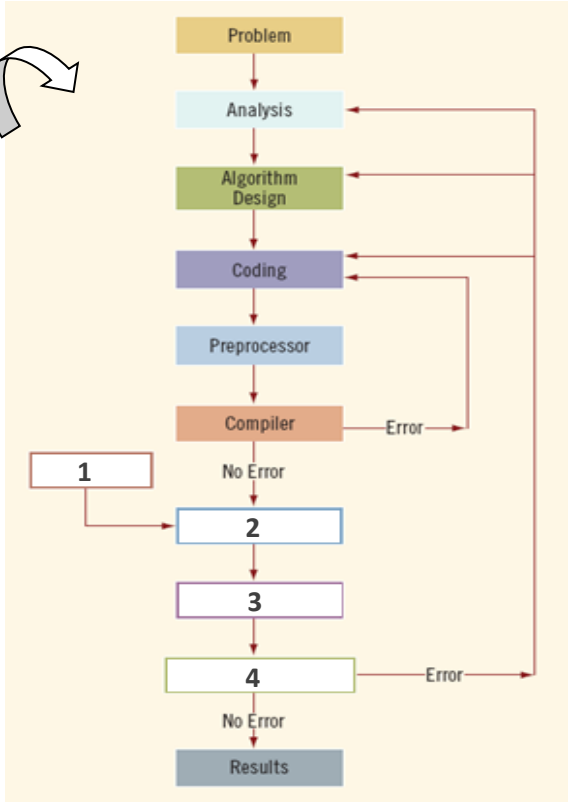
Q1. *(CLO1)* *(10Marks)*

i. Given the following diagram for the Problem Analysis–Coding–Execution Cycle, complete the following lines to show the details of the machine-role in that cycle:

1. ..... .
2. ..... .
3. ..... .
4. ..... .



ii. Given the following program, show the corresponding output on the screen:

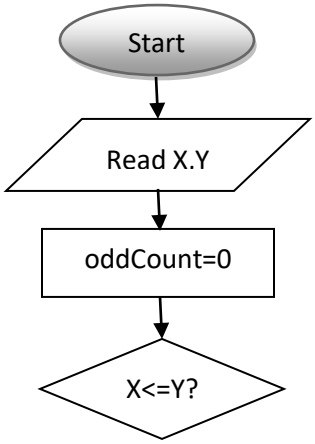
```
#include <iostream>
using namespace std;
 int main()
{
   int x=13, y = 24, z=5;
   double w=3.0;

   z = x--;
   w = x%z+y/w;
   cout << "Value of Z is: " << z << endl ;
   cout << "Value of W is: " << w << endl ;
   if (z=5)
      cout << "Last Value of Z is: " << z-- << endl ;

   return 0;
}
```

Q 2.*(CLO4)* *(4 Marks)*

Complete the following flowchart for a program that reads two numbers X, Y (note that X<Y), and finds how many odd numbers exist between them, then display that back to the user. (**Hint:** try sample numbers to check on your solution)



Q 3.*(CLO2)* ***(6Marks)***

Complete the following C++ program that reads two numbers num1 **and** num2**. Subtract 2 from the largest number, and add 5 to the smallest number. Finally, print to the user the** largest **number,** smallest **number as well as the** product **of the new values of these numbers.** (Note: num1≠num2)

```
#include <iostream>
 using namespace std;

int main()
{
    int num1, num2;
    int largest, smallest, product;


    cout << "Enter two numbers: ";
    cin>>num1>>num2;
```

Sample Outputs: