You assignment must cover the following sections **Marks : 3**

1. A well defined and Quality Cover Page
2. Problem Definition
3. Solution to the Assignment
4. Conclusion of what you learned from the Assignment.
5. Let P be the following program. Write out a computation of P beginning with the snapshot (1, ), where consists of the equation X = 3, Y = 0, Z = 0 **Marks : 7**

You must deduce all the Snapshots **(i,**σ**)** and successors **(j,**τ**)**.

| [A] IF X≠0 GOTO B  GOTO C  [B] X ← X – 1  Y ← Y + 1  Z ← Z + 1  GOTO A  [C] IF Z≠0 GOTO D  GOTO E  [D] Z ← Z – 1  X ← X + 1  GOTO C |
| --- |
|
|
|

1. Write a program in P (without using Macros) that computes

the function f(x) = 4x **Marks : 5**

1. Let be the greatest common divisor of and . Write a program in P that computes gcd. **Mark ; 5**
2. Consider the Function, <x, y> =2x(2y+1)∸1 **Mark ; 5**
   1. What is the Godel number of the Sequence [2, 0, 5, 6, 0, 0, 2, 3]
   2. What is the Godel number of the Sequence [3, 0, 4, 2]