12 SDD Assessment Task 1-

PART 1-

a) Classify each of the languages used in terms of the computer language generation to which it belongs and justify answers.

-Assembly language- From 2nd Generation it

-C- Comes from 3rd generations

-Forth- A versatile procedural language originally designed to regulate movement of telescopes and used to control devices and process ranging from heart monitors to special-effects-videos and cameras. From Fourth generation.

b) Why is assemble language described here as rudimentary (elementary or undeveloped) and in this case why would it be used?

c) Both Forth and C are imperative languages. Compare and contrast imperative and object-oriented languages.

d) Explain the use of the three different languages in this scenario rather than a single all-purpose language.

Question 2

a) Describe all possible results from running the code on line 22.

The results are – go:- parent(X, Melody), then it would run parent(X,Y) if father (X,Melody). Then it would return with parent (Jim,Melody) if father (Jim,Melody). Therefore making Jim parent of Melody. Then it would also find running Parent (X,Y) if mother (X,Melody), and will find that mother( Eleanor, Melody) Therefore parent (Eleanor, Melody) is true and Eleanor and Jim are parents.

b) The writer of the code wishes to improve it so that it includes a definition of a sibling. A sibling is simply someone who is either someone’s brother or sister. Using the code given as examples of syntax, extend the program so that it includes this definition. Your answer should be concise as possible.

The way to add the rule of sibling it will add a test like this

**sibling**(X, Y) :- mother(M, X), father(F, X), mother(M, Y), father(F, Y),X\= Y.

which will call all people and see if they are siblings, by assigning them to X, and then testing to see if they have the same mother and father, from mother(M, X) and father(F, X). Then it would also call ‘Y’ to see if the father and mother of Y is the same as X. Then it would return with all siblings like’

X = Crystal

From sibling(X, Melody).