FPA (Function Point Analysis)

- It is a process or method to determine the cost of a software project.

To develope a software, there are 5 functions.

I. Input (Resources, Material, data)
II. Files (Memory to store data)
III. Query (Processing)
IV. Interface (a) Interconnection b/w the develop and the system, b) Interconnection with the user)
V. Output.

Formula:

1. UFP = $\sum_{i=1}^{n} w_i * f_i$

↓

Unadjusted function Point

W = Weighing factor
f = function point type

- UFP = $w_1 * f_1 + w_2 f_2 + w_3 f_3 + w_4 f_4 + w_5 f_5$

2. TDI = $\sum_{i=1}^{n} C_i$

↓

Total degree of influence. $W_i * f_i$

C= Complexity factors – C1 ,C2,C3 ,……..

3. VAF=TDI*0.01+0.65

↓

Value Adjustment factor

4. 4) AFP= UFP * VAF

↓

Adjusted function Point.

Problem 1

1. In a software project there are five function points with corresponding numbers-

I. Input =20
II. File = 10
III. Interface 15
IV. Query = 12
V. Output = 10

Function points are belonging to 3 types

1) Simple 2) Average. 3) complex

Weighing factors are

1. Simple = 0.5
2. Average = 1.0
3. Complex = 1.5

The number ratio of the function point are (in terms of type) are respectively 1:2:2, 2:1:2, 2:1:2, 1:2:3, 1:2:2.

Apply fun c^n point analysis to compute the function points. The characteristic of the projects are complexity = 1.5, Reliability =D. 8.5 . & capacity = 0.75.

	I/P	File	Interface	Query	O/P	Total
Simple	4	4	6	2	2	18
Avg	8	2	3	4	4	21
Complex	8	4	6	6	4	28

Input = 20 =1:2:2 =5

co + 2/5*20

=8

Simple = 1/5*20+4

Avg = 2/5*20=8

Similarly for rest

1) UFP =$\sum_{i=1}^{n}$ wifi
=18*0.5*+21*1.0+28*1.5
=72

2) TDA = $\sum_{i=1}^{n} Ci$
=1.5+0.85+0.75
= 3.10
3) VAF = TDI * 0.01 + 0.65
= 3.1*0.01+0.65
= 0.681
4) AFP = 72*0.681
= 47.67

Problem 2

In a software project there are 5 func points with corresponding number- I/P=20, file = 10, query = 12, I/P = 15,O/P=10 The no of type ration of fun c" points. are I/P = 1:2:2, f= ang type, I/P = complex type, query = 3:2:1, O/P=2:1:2

The Characteristics of the project are usability so ep 80%, reusability = 90% prog capacity = 1.25 & complexity = 1.25

=> Apply FPA to complete the function points :

	I/P	File	quarry	I/F	O/P	Total
Simple	4	0	6	0	4	14
Avg	8	10	4	0	2	24
Complex	8	0	2	15	4	29

1. UFP = $\sum_{i=1}^{n} wifi$

=14*0.5+24*1.0+29*1.5

=74.5

2. TDA = $\sum_{i=1}^{n} Ci$
=0.8+0.9+1.25+1.25
=4.2
3. VAF = TDI * 0.01 +0.65
=0.692
4. AFP = UFP * VAF
= 74.5 x 0.692
=51.554