**20MSS53-Design and Analysis of Algorithms July 2024-November 2024**

**Tutorial List**

1. Define Big Oh
2. Find O for the following
   1. f(n)=2n + 3
   2. f(n)=2n2 +6n+3
   3. f(n)=2n3+2n2-6n+2
3. Find O for
   1. f(n)=3n + 2
   2. f(n)=100n + 6
   3. f(n)=10n2+4n+2
   4. f(n)=1000n2+100n-6
   5. f(n)=6 \*2n+n2
   6. f(n)=2n22n+n logn
   7. f(n)=n!
   8. f(n)=n3-3n2+2n
   9. f(n)=10 \* logn+4
   10. f(n)=2mn+2m+4
4. Compute time complexity for the following code and compute Big O.
   1. i=1

while (i<=n)

{

x=x+1

i=i+1

}

* 1. Algorithm Add(a, b, c, m, n)

{

for i=1 to m do

for j=1 to n do

c[I, j] = a[i, j] +b[i, j]

}

* 1. for i=0 to n-1 do

{

for j=i+1 to n-1 do

{

t=a[i, j]

a[i, j]=a[j, i]

a[j, i]=t

}

}

* 1. for i=1 to n-1 do

{

for j=i+1 to n do

{

}

}

* 1. Algorithm A()

{

for j=0 to n-1 do

{

B[j]=sum(a, j+1)

}

}

Algorithm sum (a, n)

{

s=0.0

for i=1 to n do

s= s + a[i]

return s;

}