COMPUTER NETWOKS

PRACTICAL-4

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ROLL: 69

BATCH: A4

Practical:4

Aim : To Implement Selective Repeat Protocol/Go Back -N- Protocol

Selective Repeat Protocol

```
def selective_repeat(p,w,l):
    i = 0
    j = 1
    while p >= j:
        i = i+1
        print("Packet", j, "sent")
        if(i%l == 0):
            print("Lost packet", j)
        else:
            print("Packet", j, "Aknowledged")
            j = j+1
    return i

def main():
    packets = 11
    window = 4
    lost = 5
    n = selective_repeat(packets, window, lost)
    print("Total number of packets sent:", n)
main()
```

```
Packet 1 sent
Packet 1 Aknowledged
Packet 2 sent
Packet 2 Aknowledged
Packet 3 sent
Packet 3 Aknowledged
Packet 4 sent
Packet 4 Aknowledged
Packet 5 sent
Lost packet 5
Packet 5 sent
Packet 5 Aknowledged
Packet 6 sent
Packet 6 Aknowledged
Packet 7 sent
Packet 7 Aknowledged
Packet 8 sent
Packet 8 Aknowledged
Packet 9 sent
Lost packet 9
Packet 9 sent
Packet 9 Aknowledged
Packet 10 sent
Packet 10 Aknowledged
Packet 11 sent
Packet 11 Aknowledged
Total number of packets sent: 13
```

Go Back -N- Protocol

```
def go_back_n(number_of_packets, window_size, error_freq):
    packet_array = [i for i in range(1, number_of_packets + 1)]
    count = 1
    window = []

    while len(packet_array) > 0:
        window = packet_array[0:window_size] if len(packet_array) > window_size else packet_array.copy()
        if count % (error_freq) != 0:
            if len(packet_array) > 0:
                packet_array.pop(0)
                if len(packet_array) == 0:
                    print("Number of frames transmitted",count)
                    return count
```

```
                count += 1
            else:
                print("Number of frames transmitted",count)
                return count
        else:
            count += len(window)

    print("Number of frames transmitted",count)
    return count

go_back_n(14, 5, 4)
```

```
Number of frames transmitted 31
31
```