

ECE1150 LE DCS&PS YINHAO QIAN

```
answer = @(num,unit) fprintf("ANSWER: %f [%s]\n",num,unit);
```

```
clearvars -except answer
M_file= 10e6*8;%[bits] file size
N_m = 500;%[] number of packets
M_header = 48*8;%[bits] header
B = 1e6;%[bits/s] bit rate
```

Q1

```
T_t_circ = M_file/B;%[s] transmission delay for circuit switching
answer(T_t_circ,"s");
```

ANSWER: 80.000000 [s]

```
T_t_pack = (M_file+500*48*8)/B;%[s] transmission delay for packet switching
answer(T_t_pack,"s");
```

ANSWER: 80.192000 [s]

Q2

```
throughput_pack = M_file/T_t_pack;%[bits/s] throughput for packet switching
answer(throughput_pack,"s");
```

ANSWER: 997605.746209 [s]

```
efficiency_pack = throughput_pack/B;%[] efficiency for packet switching
answer(efficiency_pack*100,"%");
```

ANSWER: 99.760575 [%]

Q3

```
throughput_circ = M_file/T_t_circ;%[bits/s] throughput for circuit switching
answer(throughput_circ,"s");
```

ANSWER: 1000000.000000 [s]

```
efficiency_circ = throughput_circ/B;%[] efficiency for circuit switching
answer(efficiency_circ*100,"%");
```

ANSWER: 100.000000 [%]

```
export('exer1_subm.mlx','exer1_subm.pdf');
```