hex\_string = input()

count = 0

binary\_string = "{0:08b}".format(int(hex\_string[:40], 16))

padding = hex\_string[40:]

print(binary\_string)

print("Source Port : ",int(binary\_string[:16],2))

print("Destination Port : ",int(binary\_string[16:32],2))

print("Sequence Number  : ",int(binary\_string[32:64],2))

print("Acknowledgment Number  : ",int(binary\_string[64:96],2))

print("HLEN : ",int(binary\_string[96:100],2))

print("Reserved Bits : ",int(binary\_string[100:106],2))

urg = int(binary\_string[106],2)

print("Urgent Flag : ",urg)

print("Ack Flag : ",int(binary\_string[107],2))

print("Psh Flag : ",int(binary\_string[108],2))

print("Rst Flag : ",int(binary\_string[108],2))

print("Syn Flag : ",int(binary\_string[109],2))

print("Fin Flag : ",int(binary\_string[110],2))

print("Window size",int(binary\_string[111:127],2))

print("Checksum : ",int(binary\_string[127:143],2))

if(urg):

    print("Urgent Pointer : ",int(binary\_string[143:159],2))

print("Padding : ",padding)