

- 1) List all data types
- A) 

byte	- 1 byte	} it stores positive numbers
ushort	- 2 bytes	
uint	- 3 bytes	
ulong	- 8 bytes	
sbyte	- 1 byte	} it stores negative numbers
short	- 2 byte	
int	- 4 byte	
long	- 8 byte	
float	- 4 byte	} depending on size of string
double	- 8 byte	
decimal	- 16 bytes	
bool (true (0x) false)		} depending on size of string
char	- 2 bytes	
string	- depending on size of string	

- 2) write list of 4 number systems

- A) 

Binary number (0 to 1)
Octal number (0 to 7)
Decimal number (0 to 9)
Hexadecimal number (0 to 10, A, B, C, D, E)

3) Convert decimal to binary 55, 24, 18

A)  $\begin{array}{r} 55 \\ 2 \overline{) 27} \\ 2 \overline{) 13} \\ 2 \overline{) 6} \\ 2 \overline{) 3} \\ \hline 1 \end{array} \Rightarrow (55)_{10} \Rightarrow (110111)_2$

$\begin{array}{r} 24 \\ 2 \overline{) 12} \\ 2 \overline{) 6} \\ 2 \overline{) 3} \\ \hline 1 \end{array} \Rightarrow (24)_{10} \Rightarrow (11000)_2$

~~18~~  $\begin{array}{r} 18 \\ 2 \overline{) 9} \\ 2 \overline{) 4} \\ 2 \overline{) 2} \\ \hline 1 \end{array} \Rightarrow (18)_{10} \Rightarrow (1001)_2$

4) convert binary to decimal 10110, 1011, 10110

1011 0

$$1 \times 2^4 + 0 \times 2^3 + 1 \times 2^2 + 1 \times 2^1 + 0 \times 2^0$$

$$16 + 0 + 4 + 2 + 0 = 22$$

$$(10110)_2 \Rightarrow (22)_{10}$$

1011

$$1 \times 2^3 + 0 \times 2^2 + 1 \times 2^1 + 1 \times 2^0$$

$$8 + 0 + 2 + 1 = 11$$

$$(1011)_2 \Rightarrow (11)_{10}$$

~~10110~~

$$1 \times 2^4 + 0 \times 2^3 + 1 \times 2^2 + 1 \times 2^1 + \cancel{0 \times 2^0}$$

$$\cancel{32} + 0 + \cancel{4} + \cancel{2} =$$

101110

$$1 \times 2^5 + 0 \times 2^4 + 1 \times 2^3 + 1 \times 2^2 + 1 \times 2^1 + 0 \times 2^0$$

$$32 + 0 + 8 + 4 + 2 + 0 = 46$$

$$(101110)_2 \Rightarrow (46)_{10}$$