LAB ASSIGNMENT-2

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SECTION: IT-8

QUESTION:1 > Write a C program to convert big-endian byte order to little endian byte order and vice-versa

CODE:

```
#include <stdio.h>

int swap_Endians (int value)
{
    int leftmost_byte;
    int left_middle_byte;
    int right_middle_byte;
    int rightmost_byte;
    int result;
    leftmost_byte = (value & 0x000000FF) >> 0;
    left_middle_byte = (value & 0x0000FF00) >> 8;
    right_middle_byte = (value & 0x00FF0000) >> 24;
    left most_byte <<= 24;
    left_middle_byte <<= 16;
    right_middle_byte <<= 8;
    rightmost_byte <<= 0;
result = (leftmost_byte | left_middle_byte | right_middle_byte | rightmost_byte);
}
    return result;

int main()

{
    int ch, be;
    int result1, result2;
    printf("Enter a Hexadecimal number: \n0x");
    scanf("%x", &be);
    Printf(" Enter 1 for big Endian conversion\n");
    Printf(" Enter 2 for little Endian conversion\n");
    Printf("Enter the choice");
```

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```
    scanf("%d",&ch);
    switch(ch)
    {
    case 1;
    result1 = swap_Endians(be);
    Printf("Big Endian to little : 0x%x\n", result1);
    boeak;
    case 2;
    result2 = swap_Endian(be);
    Printf("Little Endian to Big : 0x%x\n", result2);
    break:
    default:
    }  Printf("Invalid choice\n");
  return 0;
}
```

OUTPUT :

```
Enter a Hexadecimal number:
0x124
Enter 1 for big Endian conversion
Enter 2 for little Endian conversion
Enter the choice1
Big Endian to little: 0x24010000

--------------------------------
Process exited after 13.49 seconds with return value 0
Press any key to continue . . .
```

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QUESTION: 2) Write a C program to extract byte form a given number by using character pointer.

CODE:

```
#include <stdio.h>

typedef unsigned char BYTE;

int main()
{ unsigned int i = 1
  char * ptr = (char*) &i;
  unsigned int value = 0x 11223344;
  BYTE a, b, c, d;
a = (value & 0xFF)
b = ((value >> 8) & 0xFF);
c = ((value >> 16) & 0xFF);
d = ((value >> 24) & 0xFF);
Printf ("a = %02x\n", a);
Printf ("b = %02x\n", b);
Printf ("c = %02x\n", c);
Printf ("d = %02x\n", d);

    return 0;
}
```

OUTPUT:

```
a= 44
b= 33
c= 22
d= 11

--------------------------------
Process exited after 2.788 seconds with return value 0
Press any key to continue . . .
```