PROGRAM 6

Write a program to find the largest or smallest number in an array of 32 numbers.

```
        AREA LARGEST, CODE, READONLY
            ENTRY

START           MOV R5,#6
                LDR R1,=VALUE1
                LDR R2,[R1],#4
LOOP            LDR R4,[R1],#4
                CMP R2,R4
                BHI LOOP1
                MOV R2,R4
LOOP1           SUBS R5,R5,#1
                CMP R5,#0
                BNE LOOP
                LDR R4,=RESULT
                STR R2,[R4]
XSS         B  XSS
VALUE1          DCD 0X44444444
                DCD 0X22222222
                DCD 0X11111111
                DCD 0X33333333
                DCD 0XAAAAAAAA
                DCD 0X88888888
                DCD 0X99999999
        AREA  DATA1,DATA,READWRITE
RESULT          DCD 0X00000000
                    END
```

Program 7

Display "Hello World" message using Internal UART

Display "Hello World" message using Internal UART.

Hello word will be displayed in terminal
Open terminal in flash magic, select baud rate and com port. Press OK.

Main program

```c
#include <LPC21xx.H>          /* LPC21xx definitions */
#include "Serial.h"
void delay_ms(int count)
{
  int j=0,i=0;

  for(j=0;j<count;j++)
  {
    for(i=0;i<35;i++);
  }
}
int main (void)
{
  uart0_init();                               // Initialize UART0
  delay_ms(100000);

  while (1)
   {
  uart0_puts ("\n\rHello World\n\r");
  delay_ms(1000000);
  }
}
```

Serial program

```c
#include <LPC21xx.H>                /* LPC21xx definitions            */
#include "Serial.h"
#define CR    0x0D
int sendchar (int ch)
{              /* Write character to Serial Port    */
  if (ch == '\n')  {
    while (!(U1LSR & 0x20));
    U1THR = CR;                  /* output CR */
  }
```

```c
    while (!(U1LSR & 0x20));
    return (U1THR = ch);
}
int uart0_getkey (void)
{              /* Read character from Serial Port   */
    while (!(U0LSR & 0x01));
    return (U0RBR);
}
void uart0_init()
{
    PINSEL0 = 0x00000005;        /* Enable RxD0 and TxD0             */
    U0LCR = 0x83;             /* 8 bits, no Parity, 1 Stop bit         */
    U0DLL = 97;              /* 9600 Baud Rate @ 15MHz VPB Clock       */
    U0LCR = 0x03;             /* DLAB = 0                         */
}
void uart0_putc(char c)
{
        while(!(U0LSR & 0x20)); // Wait until UART0 ready to send character
        U0THR = c; // Send character
}
void uart0_puts(char *p)
{
        while(*p) // Point to character
        {
                uart0_putc(*p++);  // Send character then point to next character
        }
}

Header file
int uart0_getkey(void);
void uart0_init (void);
void uart0_putc        (char);
void uart0_puts        (char *);
```