Sheet 3

1. What is the function of the following program?
   MOV AH,02
   MOV BH,00
   MOV DL,20
   MOV DH,10
   INT 10H

2. Make a file for macros contains the following macros:
   MACRO DisplayString STR
   MACRO ReadString PromptMessage
   MACRO DisplayNumber; *Display the number saved in AX*
   MACRO ReadNumber PromptMessage; *Read string from user, convert it to number and save it to AX*

3. Use internet search to find the function of the following assembly commands:
   DAA, DAS, AAA, AAS, AAM and AAD. Write a simple code describing each one.
   Ascii adj after addition, multiplication, division
4. Write the following programs
   (a) Clears the screen and puts the cursor on position row = 15 and column = 20, displays the prompt "What is your name?", gets a response from the keyboard and displays it at row = 17 and column = 20.
   (b) Input two seven-digit numbers in response to the prompts "Enter the first number" and "Enter the second number". Add them together (using AAA) and display the sum with the message "The total sum is:"
   (c) Accept 3 decimal digits from the KB, each digit is echoed to the display. Assuming that the 3 digits represent a decimal number between 0-999, convert this number to binary and display the result.
   (d) Accepts a binary number (one byte) from the keyboard, and echo it to the display in a hex-decimal form.
   (e) Displays the system time and the current day of the week at the upper right corner of the screen. Use the function 2CH, INT 21h to read the system time and the function 2AH, INT 21h to read the system date. The day should be displayed by its name and not its number.
   (f) Saves the contents of the current screen in a portion of the data segment, clears the screen, and then restores the contents of the screen if a key is pressed.
   (g) Draws a vertical line in the middle of the screen, then draws a horizontal line across the middle of the screen.
   (h) Draw a square, a rectangle and a triangle using three different colours. Screen background should be white.
   (i) Counts upward by increments of 1 and displays the count with a 1-second delay in between counting. When any key is pressed, it stops counting. The initial count entered by user.

5. Write a program that performs the following:
   (a) save the video mode and change it to one of the graphics modes
   (b) ask the user to press the left button a number of times
   (c) upon pressing any key, restore the original video mode and display the number when a key is pressed