Assignment No.: 1

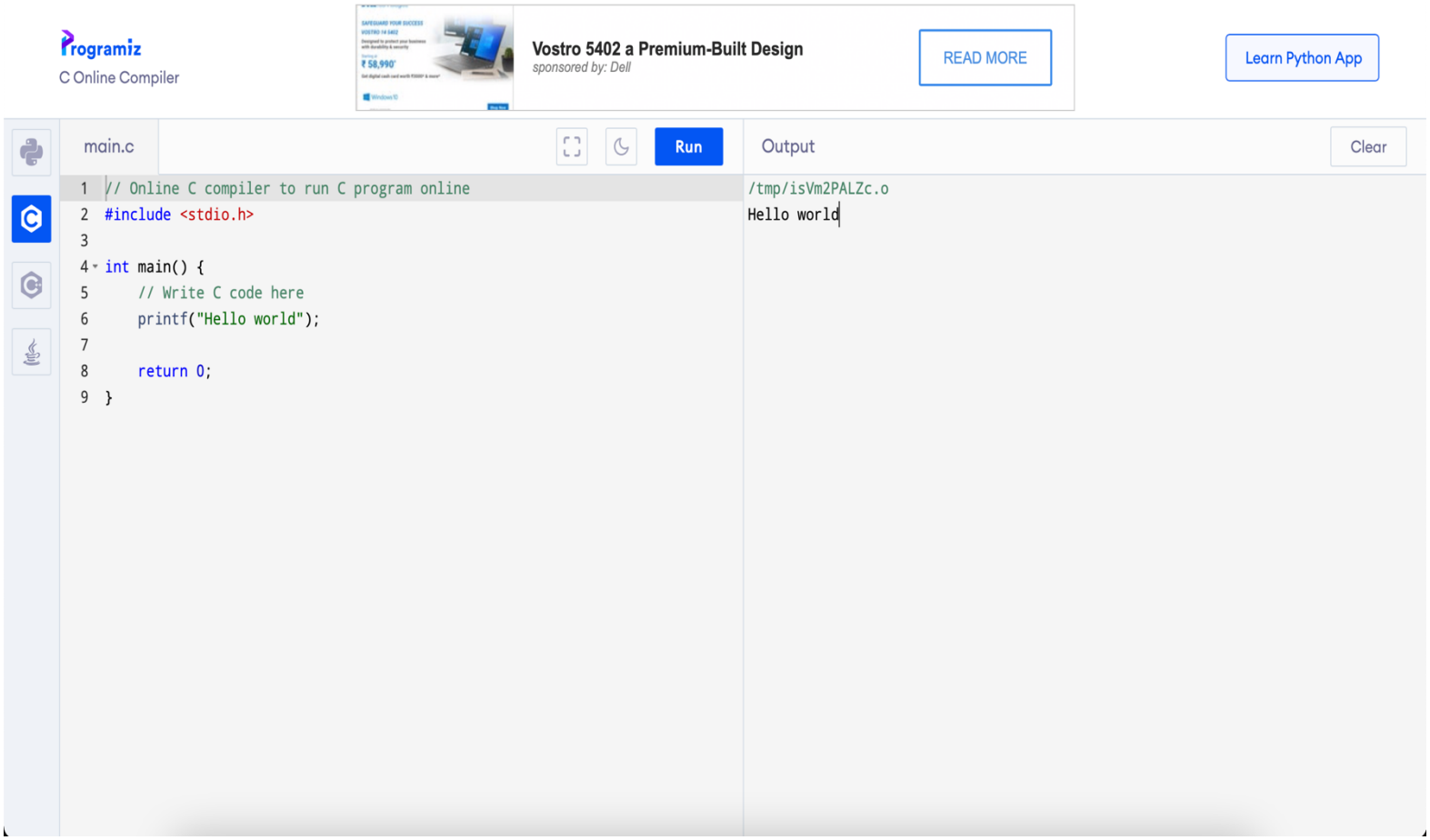
Q] Write a program in C language to display a message on screen.

ALGORITHM:--

STEP 1- START

STEP 2 – PRINT "Hello World"

STEP 3 – STOP



Q] WACP to read two numbers and perform various arithmetic operations on them like Addition, Subtraction, Multiplication, Division & Modulo Division.

ALGORITHM:--

Step 1 – Start.

Step 2 – Read a, b.

Step 3 – Add num1 and num2 and store them in variable sum.

Step 4 - Subtract num1 and num2 and store them in variable sub.

Step 5 - Multiply num1 and num2 and store them in variable mult.

Step 6 – Divide num1 and num2 and store them in variable div.

Step 7 – Calculate modules of num1 and num2 and store them in variable mod.

Step 8 – Stop.

main.c

Run

```c
int main()
{
    int num1, num2;
    int sum, sub, mult, mod;
    float div;

    printf("Input any two numbers separated by comma : ");
    scanf("%d, %d", &num1, &num2);

    sum = num1 + num2;
    sub = num1 - num2;
    mult = num1 * num2;
    div = (float)num1 / num2;
    mod = num1 % num2;


    printf("The sum of the given numbers : %d\n", sum);
    printf("The difference of the given numbers : %d\n", sub);
    printf("The product of the given numbers : %d\n", mult);
    printf("The quotient of the given numbers : %f\n", div);
    printf("MODULUS = %d\n", mod);

    return 0;
}
```

Output

Clear

```
/tmp/jMH49lxmgk.o
Input any two numbers separated by comma : 10,20
The sum of the given numbers : 30
The difference of the given numbers : -10
The product of the given numbers : 200
The quotient of the given numbers : 0.500000
MODULUS = 10
```

Q] WACP to swap two integer numbers without using 3rd variable

ALGORITHM:--

Step 1 – Start.

Step 2 – Read x, y.

Step 3 – Addition of x and y and store them in x.

Step 4 – Subtraction of x and y and store them in y.

Step 5 – Subtraction of x and y and store them in x.

Step 6 – Display x and y.

Step 7 – Stop.

main.c

Run

```c
#include<stdio.h>
int main()
{
int x, y;
printf("Input value for x & y: \n");
scanf("%d%d",&x,&y);
printf("Before swapping the value of x & y: %d %d",x,y);
x=x+y;
y=x-y;
x=x-y;
printf("\nAfter swapping the value of x & y: %d %d",x,y);
return 0;
}
```

Output

Clear

```
/tmp/isVm2PALZc.o
Input value for x & y:
5 7
Before swapping the value of x & y: 5 7
After swapping the value of x & y: 7 5
```

Q] WRITE A PROGRAM IN C TO SWAP TWO NUMBERS USING THIRD VARIABLE

ALGORITHM:--

Step 1 – Start.

Step 2 – Read first, second, temp.

Step 3 – Store the value of first in temp.

Step 4 – Store the value of second in first.

Step 5 – Store the value of temp in second.

Step 6 – Display value of first and second.

Step 7 – Stop

main.c

Run

```c
#include<stdio.h>
int main() {
    double first, second, temp;
    printf("Enter first number: ");
    scanf("%lf", &first);
    printf("Enter second number: ");
    scanf("%lf", &second);


    temp = first;


    first = second;


    second = temp;

    printf("\nAfter swapping, firstNumber = %.2lf\n", first);
    printf("After swapping, secondNumber = %.2lf", second);
    return 0;
}
```

Output

Clear

```
/tmp/ptVtiIrMIP.o
Enter first number: 10
Enter second number: 20

After swapping, firstNumber = 20.00
After swapping, secondNumber = 10.00
```

Q] WRITE A PROGRAM IN C TO SWAP TO NUMBERS USING BITWISE OPERATOR

ALGORITHM:--

Step 1 – Start .

Step 2 – Read n1 , n2.

Step 3 – Binary Addition of n1 and n2 and store them in n1.

Step 4 - Binary Addition of n1 and n2 and store them in n2.

Step 5 – Binary Addition of n1 and n2 and store them in n1.

Step 6–Display n1 and n2.

Step 7 – Stop.

main.c

Run

Output

Clear

```c
#include <stdio.h>

int main()
{
    int n1,n2;
    printf("enter two numbers\n");
    scanf("%d %d",&n1,&n2);
    printf("before swapping...\n");
    printf("first no is %d, second no %d\n",n1,n2);

    n1=n1^n2;
    n2=n1^n2;
    n1=n1^n2;

    printf("after swapping...\n");
    printf("first no is %d, second no %d\n",n1,n2);

    return 0;
}
```

```
/tmp/isVm2PALZc.o
enter two numbers
2 9
before swapping...
first no is 2, second no 9
after swapping...
first no is 9, second no 2
```

THANK YOU