C PROGRAMMING ASSIGNMENT: 21

DATE: 20.01.2022

SUBMITTED BY: -

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BRANCH: CSE

SECTION: B22

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1. WAP to show how enumerations helps in writing clear codes and simplify programming.

Code:

```c
#include <stdio.h>
enum week{Sunday,Monday, Tuesday, Wednesday,Thursday,Friday,Saturday};
int main()
{
    enum week today;
    today = Saturday;
    printf("%d day", today + 1);
    return 0;
}
```

Output:

```
Windows PowerShell
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PS C:\Users\KIIT\OneDrive\Desktop\C programming\lab> cd "c:\Users\KIIT\OneDrive\Des
 { gcc 1.c -o 1 } ; if ($?) { .\1 }
7 day
PS C:\Users\KIIT\OneDrive\Desktop\C programming\lab\20jan22_lab21final>
```

2. WAP to show bitwise operator operations

Code:

```c
#include <stdio.h>
int main()
{
    unsigned int a = 60; /* 60 = 0011 1100 */
    unsigned int b = 13; /* 13 = 0000 1101 */
    int c = 0;

    c = a & b; /* 12 = 0000 1100 */
    printf("Line 1 - Value of c is %d\n", c);


    c = a | b;/* 61 = 0011 1101 */
    printf("Line 2 - Value of c is %d\n", c);

    c = a ^ b;/* 49 = 0011 0001*/
    printf("Line 3 - Value of c is %d\n", c);

    c = ~a; /*-61 = 1100 0011 */
    printf("Line 4 - Value of c is %d\n", c);

    c = a << 2;/* 240 = 1111 0000 */
    printf("Line 5 - Value of c is %d\n", c);

    c = a >> 2; /* 15 = 0000 1111*/
    printf("Line 6 - Value of c is %d\n", c);
    return 0;
}
```

Output:

```
PROBLEMS    OUTPUT    DEBUG CONSOLE    TERMINAL

 Windows PowerShell
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 Try the new cross-platform PowerShell https://aka.ms/pscore6

 PS C:\Users\KIIT\OneDrive\Desktop\C programming\lab> cd "c:\Users\KIIT\OneDrive\Desktop\C programmi
 gcc tempCodeRunnerFile.c -o tempCodeRunnerFile } ; if ($?) { .\tempCodeRunnerFile }
 Line 1 - Value of c is 12
 Line 2 - Value of c is 61
 Line 3 - Value of c is 49
 Line 4 - Value of c is -61
 Line 5 - Value of c is 240
 Line 6 - Value of c is 15
 PS C:\Users\KIIT\OneDrive\Desktop\C programming\lab\20jan22_lab21final>
```

3.WAP to print largest element stored in 0th position

Code:

```c
#include<stdio.h>
#include<stdlib.h>
int main()

{
    int i = 0, n;
    float *data;
    printf("Enter total number of elements(1 to 100): ");
    scanf("%d", &n);
    data = (float *)calloc(n, sizeof(float)); /* Allocates memory */

    for (i = 0; i < n; ++i){
        printf("\nEnter Number %d: ", i+1);
        scanf("%f", data + i);
    }
    for (i = 1; i < n; ++i)
        if (*data < *(data + i))
            *data = *(data + i);
    printf("Largest element = %.2f", *data);
    free(data);
    /* Stores number entered by user. */
    // &data[i]
    return 0;
}
```

Output:

```
Windows PowerShell
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PS C:\Users\KIIT\OneDrive\Desktop\C programming\lab> cd "c:\Users\KIIT\OneDri
c tempCodeRunnerFile.c -o tempCodeRunnerFile } ; if ($?) { .\tempCodeRunnerFi
Enter total number of elements(1 to 100): 3

Enter Number 1: 54

Enter Number 2: 85

Enter Number 3: 26
Largest element = 85.00
PS C:\Users\KIIT\OneDrive\Desktop\C programming\lab\15jan22_lab21> 
```

4.WAP to use mallloc than array of score(cricket)
of 10 matches of player and find the average score

Code:

```c
#include <stdio.h>
#include <stdlib.h>

int main()
{

    int i;
    int count,tot;
    int *arr;
    int sum = 0;
    arr = (int *)malloc(10 * sizeof(int));
    for (i = 0; i < 10; i++)
    {

        printf("Enter The Scores of Match %d : ", (i + 1));
        scanf("%d", arr + i);

        sum += *(arr + i);
    }
    tot=sum/10;
    printf("The average score is %d \n", tot);
    free(arr);
    return 0;
}
```

Output:

```
PROBLEMS        OUTPUT      DEBUG CONSOLE       TERMINAL

Windows PowerShell
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PS C:\Users\KIIT\OneDrive\Desktop\C programming\lab> cd "c:\Users\KIIT\OneDrive\Deskto
c tempCodeRunnerFile.c -o tempCodeRunnerFile } ; if ($?) { .\tempCodeRunnerFile }
Enter The Scores of Match 1 : 45
Enter The Scores of Match 2 : 62
Enter The Scores of Match 3 : 548
Enter The Scores of Match 4 : 63
Enter The Scores of Match 5 : 5296
Enter The Scores of Match 6 : 54
Enter The Scores of Match 7 : 41
Enter The Scores of Match 8 : 59
Enter The Scores of Match 9 : 63
Enter The Scores of Match 10 : 20
The average score is 625
```

5. WAP to add arrays using dynamic memory allocation.

Code:

```c
#include <stdio.h>
#include <stdlib.h>
int main()
{
    int n, i, *ptr, sum = 0;
    printf("Enter number of elements: ");
    scanf("%d", &n);
    ptr = (int *)malloc(n * sizeof(int));
    printf("Enter elements of array: ");
    for (i = 0; i < n; ++i)
    {
        //memory allocated using malloc
        scanf("%d", ptr + i);
        sum += *(ptr + i); // ptr[i];
    }
    printf("Sum=%d", sum);
    free(ptr);
    return 0;
}
```

Output:

```
PROBLEMS    OUTPUT    DEBUG CONSOLE    TERMINAL

Windows PowerShell
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PS C:\Users\KIIT\OneDrive\Desktop\C programming\lab> cd "c:\Users\KIIT\OneDrive
c 3.c -o 3 } ; if ($?) { .\3 }
Enter number of elements: 3
Enter elements of array: 5
5
6
Sum=16
PS C:\Users\KIIT\OneDrive\Desktop\C programming\lab\15jan22_lab21> []
```