**Assignment – 10 A Job Ready Bootcamp in C++, DSA and IOT MySirG**

***Functions in C Language***

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//1. Write a function to calculate the area of a circle. (TSRS)

#include<stdio.h>

float area(float radius)

{

    return 3.14\*radius\*radius;

}

int main()

{

    printf("%f",area(15));

}

/\*3. Write a function to check whether a given number is even or odd. Return 1 if the

number is even, otherwise return 0. (TSRS)\*/

#include<stdio.h>

int even(int num)

{

    if(num%2==0)

    return 1;

    else

    return 0;

}

int main()

{

    printf("%d",even(2));

}

//4. Write a function to print first N natural numbers (TSRN)

#include<stdio.h>

int natural(int n)

{

    int i;

    for(i=1; i<n; i++)

    {

        printf("%d ",i);

    }

    return i;

}

int main()

{

    printf("%d",natural(5));

}

//5. Write a function to print first N odd natural numbers. (TSRN)

#include<stdio.h>

int natural(int n)

{

    int i;

    for(i=1; i<n; i++)

    {

        if(i%2!=0)

        {

            printf("%d ",i);

        }

    }

    return i;

}

int main()

{

    printf("%d",natural(10));

}

//6. Write a function to calculate the factorial of a number. (TSRS)

#include<stdio.h>

int fact(int n)

{

    int i,fact=1;

    for(i=1; i<=n; i++)

    {

        fact = fact\*i;

    }

    return fact;

}

int main()

{

    printf("%d",fact(6));

}

/\*7. Write a function to calculate the number of combinations one can make from n items

and r selected at a time. (TSRS)\*/

#include<stdio.h>

int fact(int n)

{

    int i,fact=1;

    for(i=1; i<=n; i++)

    {

        fact = fact\*i;

    }

    return fact;

}

int comb(int n,int r)

{

    return fact(n)/(fact (r)\*fact(n-r));

}

int main()

{

    printf("%d",comb(5,2));

}

/\*8. Write a function to calculate the number of arrangements one can make from n items

and r selected at a time. (TSRS)\*/

#include<stdio.h>

int fact(int n)

{

    int i,fact=1;

    for(i=1; i<=n; i++)

    {

        fact = fact\*i;

    }

    return fact;

}

int per(int n,int r)

{

    return fact(n)/(fact(n-r));

}

int main()

{

    printf("%d",per(5,2));

}

/\*9. Write a function to check whether a given number contains a given digit or not.

(TSRS)\*/

#include <stdio.h>

int digit(char ch)

{

    if (ch >= 47 && ch <= 57)

        return 1;

    return 0;

}

int main()

{

    char ch = 0;

    printf("Enter the characters:");

    scanf("%c", &ch);

    if (digit(ch))

    {

        printf("Character is digit:");

    }

    else

        printf("Character is not digit:");

    return 0;

}