

iNeuron

Course: A job Ready Bootcamp in C++, DSA and IOT

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

Program

```
#include<stdio.h>

float area(int r);

int main()
{
    int r;
    printf("Enter a radius:");
    scanf("%d",&r);
    printf("Area of circle is:%f",area(r));
    return 0;
}

float area(int r)
{
    return(3.1416*r*r);
}
```

2. Write a function to calculate simple interest. (TSRS)

Program

```
#include<stdio.h>

int simple_inte(int,int,int);

int main()
{
    int p,r,t,s;
    printf("Enter a amount:");
    scanf("%d",&p);
    printf("Enter a rate:");
    scanf("%d",&r);
```

```

        printf("Enter a time:");
        scanf("%d",&t);
        s=simple_inte(p,r,t);
        printf("simple interest is:%d",s);
        return 0;
    }
    int simple_inte(int p,int r,int t)
    {
        return((p*r*t)/100);
    }

```

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)

Program

```

#include<stdio.h>
int EO(int n);
int main()
{
    int n,i;
    printf("Enter a number:");
    scanf("%d",&n);
    i=EO(n);
    if(i==1)
        printf("Even number");
    else
        printf("Odd number");
    return 0;
}

```

```
int EO(int n)
{
    if(n%2)
        return(0);
    else
        return 1;
}
```

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

Program

```
#include<stdio.h>
int natural(int n);
int main()
{
    int n;
    printf("Enter a number:");
    scanf("%d",&n);
    natural(n);
    return 0;
}
int natural(int n)
{
    int i;
    for(i=1;i<=n;i++)
        printf("%d ",i);
}
```

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

Program

```
#include<stdio.h>

int natural(int n);

int main()
{
    int n;
    printf("Enter a number:");
    scanf("%d",&n);
    natural(n);
    return 0;
}

int natural(int n)
{
    int i;
    for(i=1;i<=n;i+=2)
        printf("%d ",i);
}
```

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

Program

```
#include<stdio.h>

int fac(int n);

int main()
{
    int n;
    printf("Enter a number:");
    scanf("%d",&n);
```

```

        printf("Factorial is:%d",fac(n));
        return 0;
    }
    int fac(int n)
    {
        int i=1,b=1;
        for(n;n>=i;n--)
            b*=n;
        return(b);
    }

```

7. Write a function to calculate the number of combinations one can make from n items and r selected at a time. (TSRS)

Program

```

#include<stdio.h>

int comb(int,int);
int fac(int);
int main()
{
    int n,r,s;
    printf("Enter a item:");
    scanf("%d",&n);
    printf("Enter a selected items:");
    scanf("%d",&r);
    printf("Number of combinations:%d",comb(n,r));
    return 0;
}

int comb(int n,int r)

```

```

    {
        return fac(n)/(fac(r)*fac(n-r));
    }
int fac(int n)
{
    int b=1;
    for(n;n>=1;n--)
        b*=n;
    return(b);
}

```

8. Write a function to calculate the number of arrangements one can make from n items and r selected at a time. (TSRS)

Program

```

#include<stdio.h>
int comb(int,int);
int fac(int);
int main()
{
    int n,r;
    printf("Enter a item:");
    scanf("%d",&n);
    printf("Enter a selected items:");
    scanf("%d",&r);
    printf("Number of arrangement is:%d",arra(n,r));
    return 0;
}
int arra(int n,int r)

```

```

    {
        return(fac(n)/fac(n-r));
    }
int fac(int n)
{
    int b=1;
    for(n;n>=1;n--)
        b*=n;
    return(b);
}

```

9. Write a function to check whether a given number contains a given digit or not. (TSRS)

Program

```

#include<stdio.h>
int digit(int,int);
int main()
{
    int n,s,x;
    printf("Enter a number:");
    scanf("%d",&n);
    printf("Enter a digit:");
    scanf("%d",&x);
    s=digit(n,x);
    if(s)
        printf("Yes contain a Digit");
    else
        printf("Not contain a digit");
}

```



```

        return 0;
    }
    int digit(int n,int x)
    {
        int flag=0;
        while(n)
        {
            if(n%10==x)
            {
                flag=1;
                break;
            }
            n=n/ 10;
        }
        return(flag);
    }

```

10. Write a function to print all prime factors of a given number. For example, if the number is 36 then your result should be 2, 2, 3, 3. (TSRN)

Program

```

#include<stdio.h>
void factors(int);
int main()
{
    int n;
    printf("Enter a number:");
    scanf("%d",&n);
    factors(n);
}

```

```
        return 0;
    }
    void factors(int n)
    {
        int i;
        for(i=2;i<=n;i++)
        {
            if(n%i==0)
            {
                n/=i;
                printf("%d, ",i);
                i=1;
            }
        }
    }
}
```