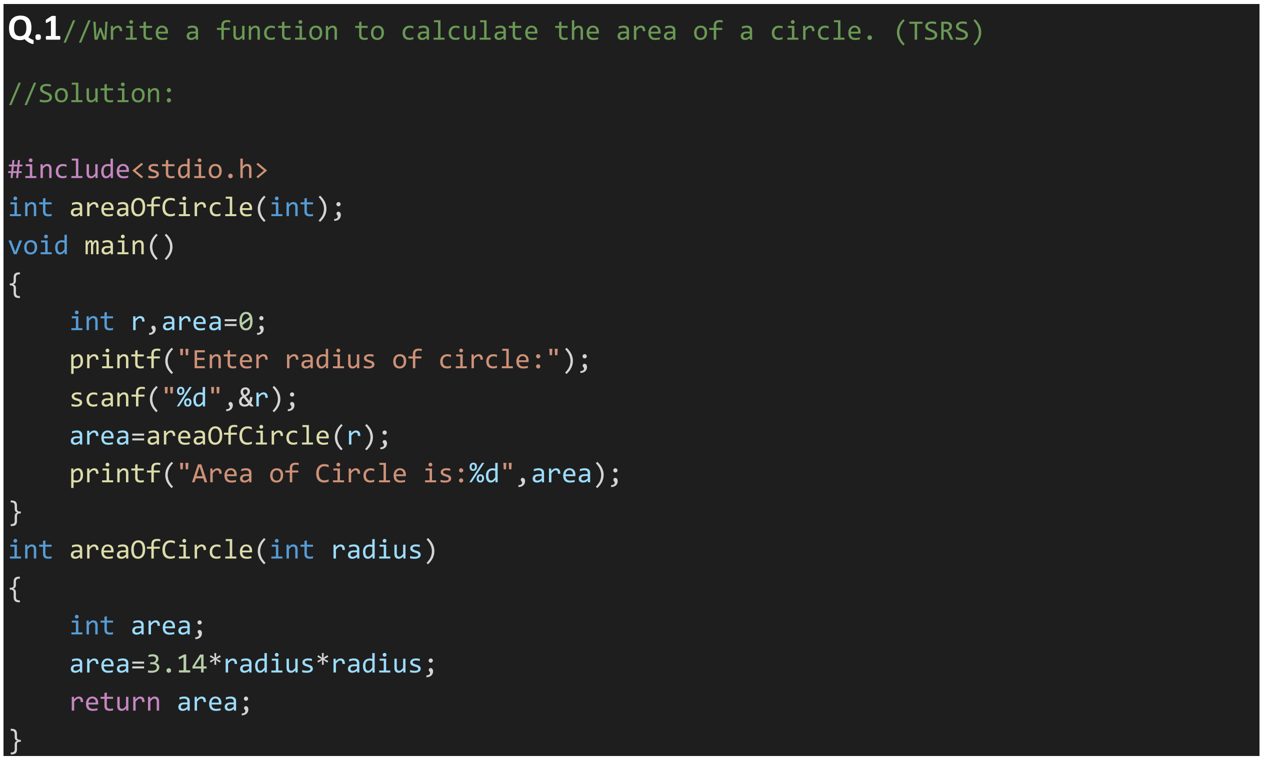
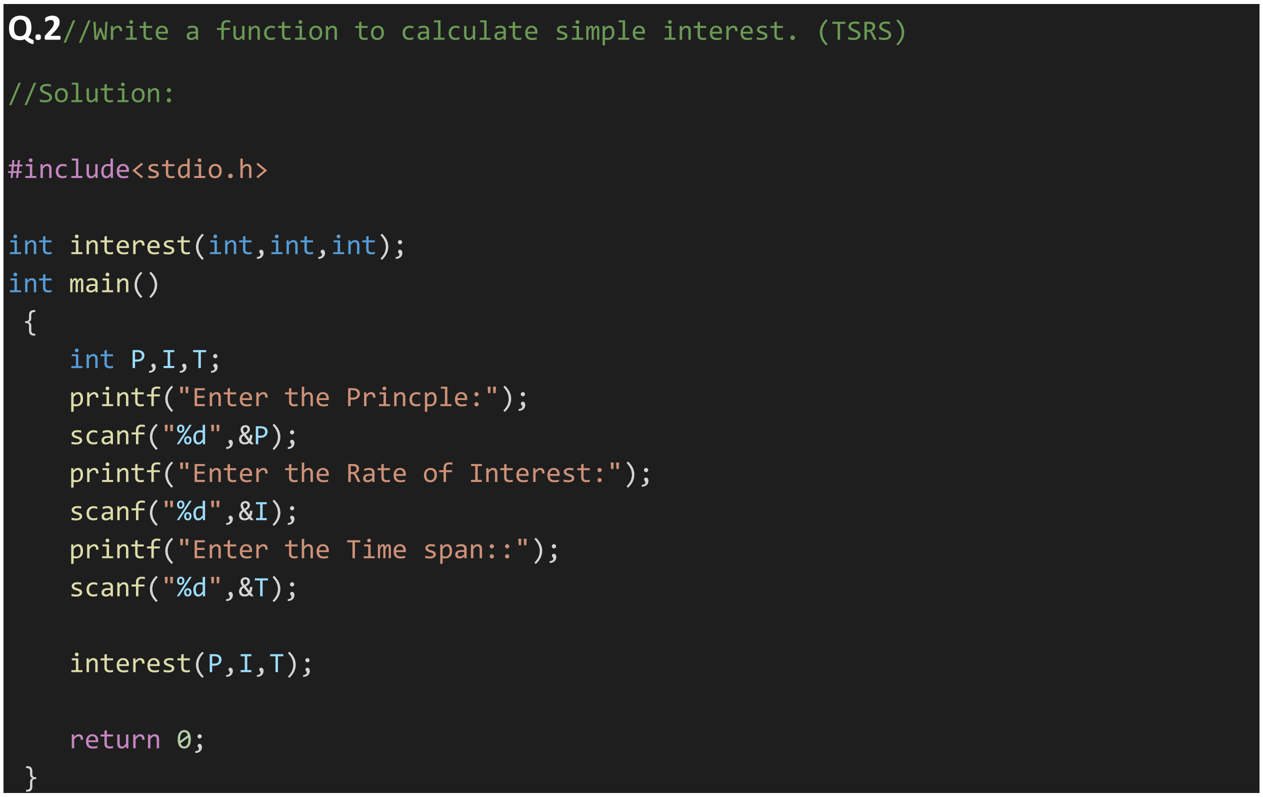
Assignment 10 Solution



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

//Solution:

#include<stdio.h>
int areaOfCircle(int);
void main()
{
    int r,area=0;
    printf("Enter radius of circle:");
    scanf("%d",&r);
    area=areaOfCircle(r);
    printf("Area of Circle is:%d",area);
}
int areaOfCircle(int radius)
{
    int area;
    area=3.14*radius*radius;
    return area;
}
```



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

//Solution:

#include<stdio.h>

int interest(int,int,int);
int main()
 {
    int P,I,T;
    printf("Enter the Princple:");
    scanf("%d",&P);
    printf("Enter the Rate of Interest:");
    scanf("%d",&I);
    printf("Enter the Time span::");
    scanf("%d",&T);

    interest(P,I,T);

    return 0;
 }
```

```
int interest(int Principle,int Rate,int Time)
{
   int SI=(Principle*Rate*Time)/100;
   return  printf("\n Simple Interest is :%d",SI);
}
```

Q.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)

```
//Solution:

#include<stdio.h>

int oddevencheck(int);
int main()
{
    int num;
    printf("Enter a number:");
    scanf("%d",&num);
    int validate= oddevencheck(num);
    validate==0?printf("Entered number is even number"):printf("Entered number is a odd number:");
    return 0;
}

int oddevencheck(int number)
{
    int val=number%2;
    return val;
}
```

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

```
//Solution:

#include<stdio.h>

void naturalNo(int );
int main()
{
    int num;
    printf("Enter the range of natural number you want:");
    scanf("%d",&num);
    naturalNo(num);
    return 0;
}

void naturalNo(int number)
{
    for(int i=1;i<=number;i++)
    {
         printf("%d ",i);
    }
}
```

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

```
//Solution:

#include<stdio.h>

void oddno(int);
int main()
{
    int num;
    printf("Enter the range of number you want to print:");
    scanf("%d",&num);
    oddno(num);
    return 0;
}

void oddno(int number)
{
    int count=0;
    printf("First %d odd number are:",number);
    for(int i=1;i*2;i++)
    {
        if(i%2!=0)
        {
            printf("%d ",i);
            count++;
        }
        if(count==number)
        {
            break;
        }
    }
}
```

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

```c
//Solution:

#include <stdio.h>

int fact(int);
int main()
{
    int num;
    printf("Enter a number:");
    scanf("%d",&num);
    fact(num);
    return 0;
}
int fact(int number)
{
    int mul=1,fact=0;
    for(int i=1;i<=number;i++)
    {
        mul=mul*i;
    }
    return printf(" factorial of %d is:%d",number,mul);
}
```

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

```c
//Solution:

#include<stdio.h>
int fact(int);
int Comb(int,int);
int main()
{
    int a,b;
    printf("Enter two number:");
    scanf("%d %d",&a,&b);
    if(a<b)
    {
        int temp=a;
        a=b;
        b=temp;
    }
    Comb(a,b);
    return 0;
}

int fact(int number)
{
    int factorial=1;
    for(int i=1;i<=number;i++)
    {
        factorial=factorial*i;
    }
    return factorial;
}

int Comb(int num1,int num2)
{
    int comb=fact(num1)/(fact(num2)*(fact(num1-num2)));
    return printf("%d ",comb);
}
```

Q.8

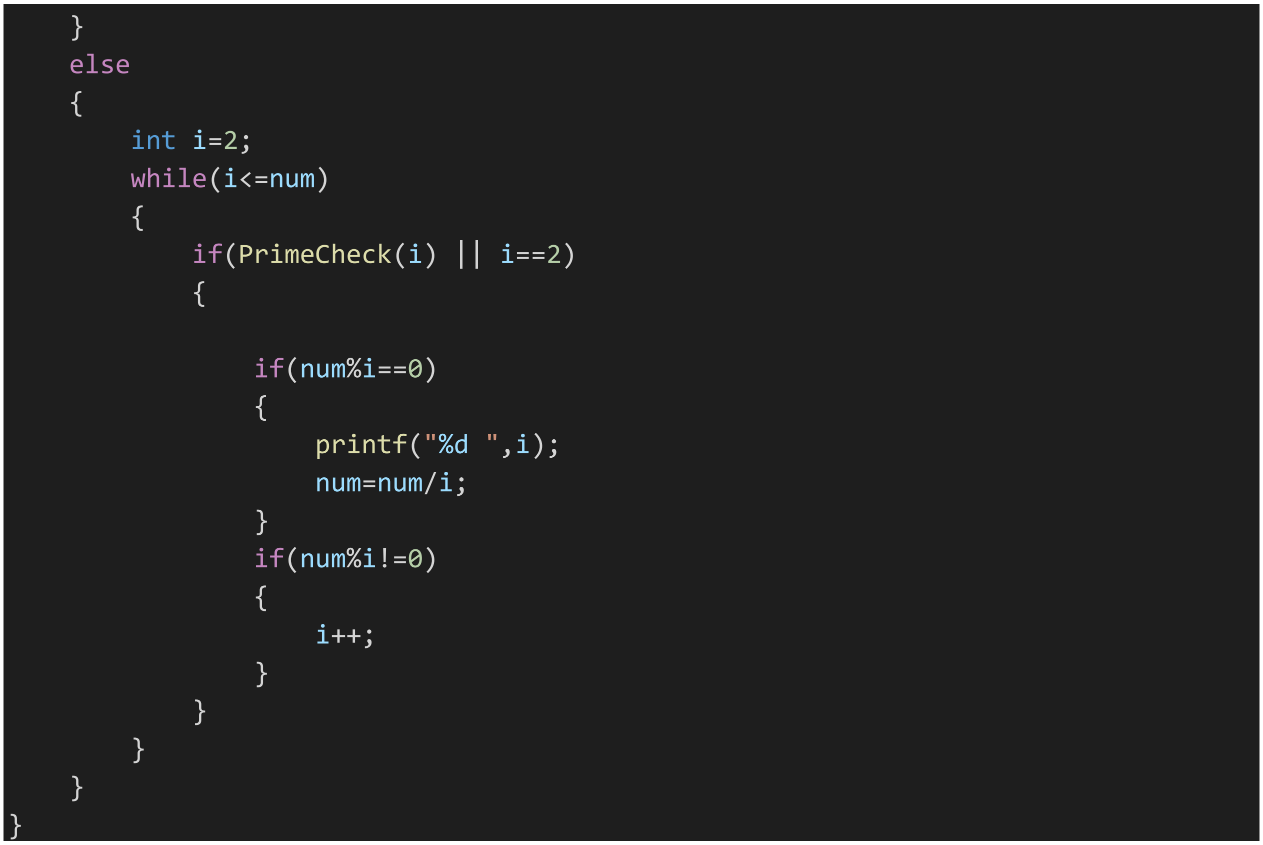
```
//Write a function to calculate the number of arrangements one can make from
n items and r selected at a time. (TSRS)

//Solution:

#include<stdio.h>
int arrang(int ,int);
int fact(int );
int main()
{
    int num,num1;
    printf("Enter two number:");
    scanf("%d %d",&num,&num1);
    if(num<num1)
    {
        int temp=num;
        num=num1;
        num1=temp;
    }
    arrang(num,num1);
    return 0;
}

int fact(int number)
{
    int factorial=1;
    for(int i=1;i<=number;i++)
    {
        factorial=factorial*i;
    }
    return factorial;
}

int arrang(int num1,int num2)
{
    int arrang=fact(num1)/fact(num1-num2);
    return printf("%d ",arrang);
}
```

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

```
//Solution:

#include<stdio.h>
int NoFind(int,int);
int main()
{
    int num,digit;
    printf("Enter a number:");
    scanf("%d",&num);
    printf("Enter a the digit you want to find:");
    scanf("%d",&digit);
    NoFind(num,digit);
    return 0;
}

int NoFind(int number,int digit)
{
    int val;
    for(int i=1;number;i++)
    {
        val=number%10;
        number=number/10;
        if(val==digit)
            break;
    }
    if(val==digit)
    {
        return printf("The digit %d was found",digit);
    }
    else
    {
        return printf("The digit %d not found",digit);
    }
}
```

Q.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)

```
//Solution:

#include<stdio.h>
int PrimeCheck(int);
void PrimeFact(int);
int main()
{
    int num;
    printf("Enter a number:");
    scanf("%d",&num);
    PrimeFact(num);
    return 0;
}
int PrimeCheck(int num)
{
    for(int i=2;i<=num;i++)
    {
        if(num%i==0)
        {
            return 0;
        }
        else
        {
            return 1;
        }
    }
}

void PrimeFact(int num)
{
    if(PrimeCheck(num)==1)
    {
        printf("%d is a prime number",num);
```



```
    }
    else
    {
        int i=2;
        while(i<=num)
        {
            if(PrimeCheck(i) || i==2)
            {

                if(num%i==0)
                {
                    printf("%d ",i);
                    num=num/i;
                }
                if(num%i!=0)
                {
                    i++;
                }
            }
        }
    }
}
```