**CSE 115 Lab on functions – Ara2**

1. **C program illustrating the difference between void and non-void function:**

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| #include <stdio.h>  // definition of a non-void function  float computeSquare(float x)  {  return x\*x;  }  // definition of a void function  void printCube(float x)  {  printf("Cube = %f", x\*x\*x);  } | //main function  void main()  {  float m, n;  printf("\nEnter a number: ");  scanf("%f", &m);  //call computeSquare function on m  **n = computeSquare(m);**  printf ("Square = %f", n);  //call printCube function on m  **printCube(m);**  } |

1. **C program to determine if a given number is odd/even using function**

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| #include <stdio.h>  void oddEven(int x)  {  if(x%2==0) printf("Even");  else printf("Odd");  } | void main()  {  int m;  printf("\nEnter an integer: ");  scanf("%d", &m);  oddEven(m); //function call  } |

**Try yourself2: Write C program using a function to check if a given number is positive, negative, or zero.**

1. **C program to determine if a given number is prime using function**

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| #include <stdio.h>  int isPrime(int x)  {  int i;  for(i=2;i<=x/2;i++)  {  if(x%i==0)  return 0;  }  return 1;  } | int main()  {  int m;  printf("\nEnter an integer: ");  scanf("%d", &m);  int n = isPrime(m);  if(n==0)  printf("Not prime")  else  printf("Prime");  } |

**Try yourself 3: Write C program using a function to check if a given number is a perfect number.**

1. **C program to compute sum of all natural numbers between m and n (using function)**

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| #include <stdio.h>  int sum(int m, int n)  {  int i, sum=0;  for(i=m;i<=n;i++)  {  sum+=i;  }  return sum;  } | int main()  {  int n;  printf("\nEnter 2 integers: ");  scanf("%d%d", &m, &n);  int s = sum(m,n);  printf("sum=%d",s)  } |

1. **C program to compute the integer resulting from rounding a number n (using function)**

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| #include <stdio.h>  int round1(float n)  {  int i=n; //integer part of n  if(n-i>=0.5) return i+1;  else return i;  } | int main()  {  float n;  printf("\nEnter a number: ");  scanf("%f", &n);  int s = round1(n);  printf("%d",s)  } |

**Exercise:**

1. **Write a C program using 3 functions to compute diameter, circumference and area of a circle whose radius is given by the user as the input.**
2. **Find the sum of the following series using a function: 12 + 22 + 32 + … + N2**

**Assignment:**

1. **Find the sum of the following series using user-defined function: 1/1! + 2/2! + 3/3! + …… +1/N!**
2. **Write a C code using functions that takes two integers: a and b as inputs and returns the value of ab.**
3. **Compute the sum of the following geometric progression using a function with 2 parameters r and n:**

**1 + r + r2 + … + rn (read the values of r and n from user)**

1. **Write a C program that reads an integer and returns the reverse of that number using function.**
2. **Write a C program using function that reads a floating point number n and an integer d and then prints the rounded value of n up to d decimal places. E.g. for n=5.678 and d = 2; it should print 5.68**