# Exercise 1

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| --- | --- |
| Code | Output |
| //Lab 2 exercise (Exercise 1)  #include <stdio.h>  #include <stdlib.h>  int main()  {  int year;  printf("Enter the year: ");  scanf("%d", &year);  if(year%4==0)  {  if(year%100==0)  {  if(year%400==0)  {  printf("The year %d is a leap year", year);  }  else  {  printf("The year %d is not a leap year", year);  }  }  else  {  printf("The year %d is a leap year", year);  }  }  else  {  printf("The year %d is not a leap year", year);  }  return 0;  } |  |

# Exercise 2

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| --- | --- |
| Code | Output |
| //Lab 2 exercise (Exercise 2)  #include <stdio.h>  #include <stdlib.h>  #include <ctype.h>  int main()  {  char color;  printf("Please enter your choice (B - Blue / C - Cyan / G - Green / R – Red / Y - Yellow) : ");  scanf("%c", &color);  color = toupper(color);  switch(color){  case 'B': printf("Your chosen color is BLUE");  break;  case 'C': printf("Your chosen color is CYAN");  break;  case 'G': printf("Your chosen color is GREEN");  break;  case 'R': printf("Your chosen color is RED");  break;  case 'Y': printf("Your chosen color is YELLOW");  break;  default: printf("Invalid choice");  }  return 0;  } |  |

# Exercise 3

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| --- | --- |
| Code | Output |
| //Lab 2 exercise (Exercise 3)  #include <stdio.h>  int main()  {  int num;  int sum = 0;  int i;  float avg;  printf("Enter 10 numbers: \n");  for (i = 0; i < 10; i++)  {  scanf("%d", &num);  sum += num;  }  avg = sum / 10.0;  printf("The sum of 10 number is %d\n", sum);  printf("The Average is %.2f\n", avg);  return 0;  } |  |

# Extra Exercise 1

1.

|  |
| --- |
| Output |
|  |

2.

|  |  |
| --- | --- |
| Before | After |
|  | //Program to demonstrate multi-selection using switch-case  #include <stdio.h>  #include <ctype.h>  int main() {  char color;  printf("Please enter your choice [B-Blue | C-Cyan | G-Green | R-Red | Y-Yellow : ");  scanf(" %c", &color);  color = toupper(color);  switch ( color ) {  case 'B':  printf("Your chosen color is BLUE\n");  break;  case 'C':  printf("Your chosen color is CYAN\n");  break;  case 'G':  printf("Your chosen color is GREEN\n");  break;  case 'R': //another approach to accept capital letter R or small letter r  printf("Your chosen color is RED\n");  break;  case 'Y':  printf("Your chosen color is YELLOW\n");  break;  default:  printf("WRONG ENTRY, TRY AGAIN!!!\n");  }  return 0;  } |

3.

|  |  |
| --- | --- |
| Code | Output |
| //Program to demonstrate multi-selection using switch-case  #include <stdio.h>  #include <ctype.h>  int main() {  char color;  int blue;  printf("Please enter your choice [B-Blue | C-Cyan | G-Green | R-Red | Y-Yellow : ");  scanf(" %c", &color);  color = toupper(color);  switch ( color ) {  case 'B':  printf("Your chosen color is BLUE\n");  printf("[1]Light Blue or [2]Dark Blue? ");  if(scanf("%d", &blue) == 1) {  switch (blue) {  case 1:  printf("You have chosen Light Blue\n");  break;  case 2:  printf("You have chosen Dark Blue\n");  break;  default:  printf("WRONG ENTRY, TRY AGAIN!!!\n");  }  }  else {  printf("WRONG ENTRY, TRY AGAIN!!!\n");  }  break;  case 'C':  printf("Your chosen color is CYAN\n");  break;  case 'G':  printf("Your chosen color is GREEN\n");  break;  case 'R': //another approach to accept capital letter R or small letter r  printf("Your chosen color is RED\n");  break;  case 'Y':  printf("Your chosen color is YELLOW\n");  break;  default:  printf("WRONG ENTRY, TRY AGAIN!!!\n");  }  return 0;  } |  |

4.

|  |  |
| --- | --- |
| Code | Output |
| //Program to demonstrate multi-selection using switch-case  #include <stdio.h>  #include <ctype.h>  int main() {  char color;  int blue;  char choice;  do {  printf("Please enter your choice [B-Blue | C-Cyan | G-Green | R-Red | Y-Yellow : ");  scanf(" %c", &color);  color = toupper(color);  switch (color) {  case 'B':  printf("Your chosen color is BLUE\n");  printf("[1]Light Blue or [2]Dark Blue? ");  if (scanf("%d", &blue) == 1) {  switch (blue) {  case 1:  printf("You have chosen Light Blue\n");  break;  case 2:  printf("You have chosen Dark Blue\n");  break;  default:  printf("WRONG ENTRY, TRY AGAIN!!!\n");  }  } else {  printf("WRONG ENTRY, TRY AGAIN!!!\n");  }  break;  case 'C':  printf("Your chosen color is CYAN\n");  break;  case 'G':  printf("Your chosen color is GREEN\n");  break;  case 'R': //another approach to accept capital letter R or small letter r  printf("Your chosen color is RED\n");  break;  case 'Y':  printf("Your chosen color is YELLOW\n");  break;  default:  printf("WRONG ENTRY, TRY AGAIN!!!\n");  }  printf("Do you want to continue? [Y/N] ");  scanf(" %c", &choice);  }while (choice == 'Y' || choice == 'y');  return 0;  } |  |

# Extra Exercise (2)

|  |  |
| --- | --- |
| Code | Output |
| #include <stdio.h>  int main() {  char choice;  do {  int counter = 1;  int number;  int sum = 0; // Initialize sum to zero  double average;  printf("Please enter 10 numbers. \n");  while (counter <= 10) {  printf("Number #%d >> ", counter);  scanf("%d", &number);  sum += number; // sum = sum + number;  ++counter; // counter = counter + 1;  }  average = (double) sum / 10.0; // Ensure that one of the operands is a double to perform floating-point division  printf("\nSum of the 10 numbers is %d \n", sum);  printf("The average of these numbers is %lf \n", average);  printf("Continue? (Y/N) >> ");  scanf(" %c", &choice);  } while (choice == 'Y' || choice == 'y');  return 0;  } |  |

# Extra Exercise (3)

|  |
| --- |
| Code |
| #include <stdio.h>  int main() {  char choice;  do {  int n;  printf("Enter a number: ");  scanf("%d", &n);  if(n%2==0)  {  printf("%d is even\n", n);  }  else  {  printf("%d is odd\n", n);  }  printf("Do you want to continue? (Y/N): ");  scanf(" %c", &choice);    } while (choice == 'Y' || choice == 'y');  return 0;  } |
| Output |
|  |

# Extra Exercise (4)

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| --- |
| Code |
| #include <stdio.h>  int main()  {  char choice;  int num;  int i = 0;  int j = 0;  do  {  printf("===========Print Stars===========\n");  printf("Enter a number of asterisk to print: ");  scanf("%d", &num);  printf("%d stars \t\t", num);  while (i < num)  {  printf("\*");  i++;  }  printf("\n");  printf("Do you want to continue? (Y/N): ");  scanf(" %c", &choice);  i = 0;  } while (choice == 'Y' || choice == 'y');  return 0;  } |
| Output |
|  |

# Extra Exercise (5)

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| --- |
| Code |
| #include <stdio.h>  int main() {  int counter;  printf("Print numbers from 1 to 10:\n");  for (counter = 1; counter <= 10; counter++) {  printf("%d ", counter);  }  printf("\n\nPrint 10 integers: 10, 20, 30...90, 100\n");  for (int i = 1; i <= 10; i++) {  printf("%d ", i \* 10);  }  return 0;  } |

Semicolon at the end of the for loop will