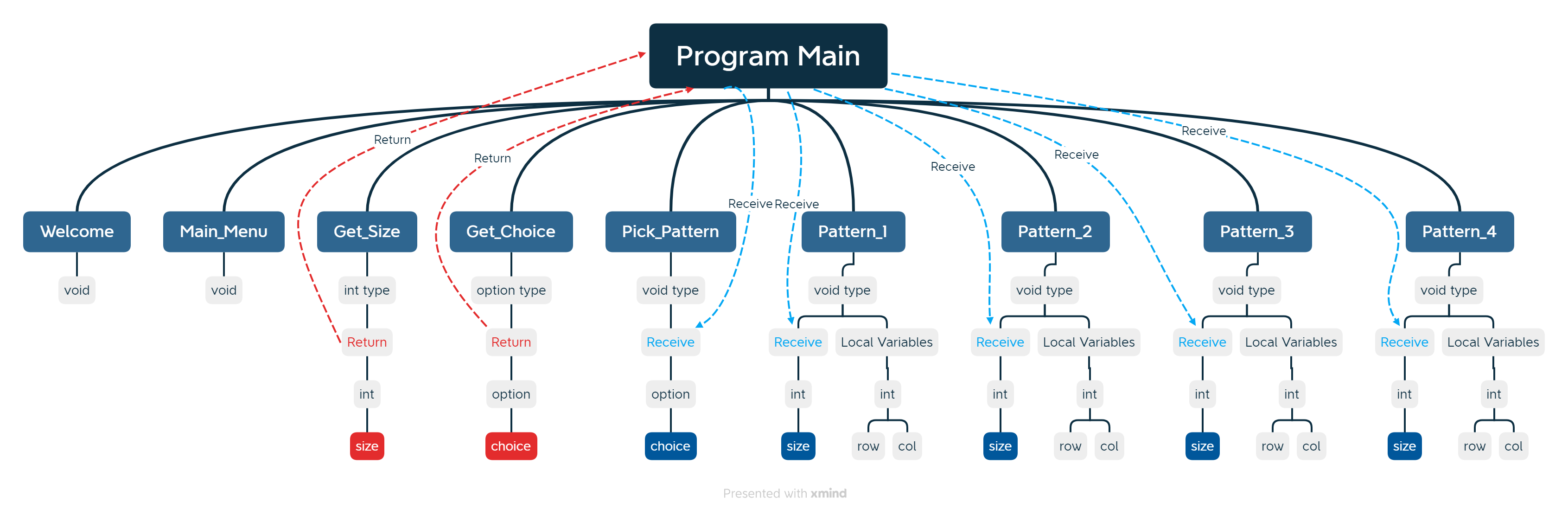
**CSC 150 – Program Design Document**

**Structure Chart**



**Data Storage (defined in main)**

* int choice
  + It holds the value for the choice picked by the user
* int size
  + It holds the value for the pattern size picked by the user

**Function Design (for each function, give the function’s prototype and 1 or 2 lines describing how the function works.)**

* Main
  + Int Main ();
  + Call the other functions in the programs
* Welcome
  + void Welcome ();
  + It just prints a welcome statement telling the user about the program and its purpose and how to use it
  + Doesn’t return or take any value
* Main\_Menu
  + void Main\_Menu ();
  + It prints the Main\_Menu, letting the user see the options.
  + Doesn’t return or take any value
* Pick\_Pattern
  + void Pick\_Pattern (option choice);
  + Function
    - Calls the Get\_Size function
    - Calls the Get\_Choice function
    - It uses the choice variable to determine which pattern will be executed
  + It comprises of switch statements
  + It takes the value from the option variable “choice”
  + It doesn’t return any value
* Get\_Size
  + int Get\_Size (int size);
  + It receives the size from the user and validates the input, repeating until the input is compatible
  + It doesn’t take any value
  + It returns a value in the integer variable “size”
* Get\_Choice
  + option Get\_Choice (option choice);
  + It receives the choice from the user and validates the input for errors
  + It doesn’t take any value
  + It returns a value in the option variable “choice”
* Pattern\_1
  + void Pattern\_1 (int size)
  + It prints pattern 1
  + Takes the integer variable “size”
  + It doesn’t return any value
* Pattern\_2
  + void Pattern\_2 (int size)
  + It prints pattern 2
  + Takes the integer variable “size”
  + It doesn’t return any value
* Pattern\_3
  + void Pattern\_3 (int size)
  + It prints pattern 3
  + Takes the integer variable “size”
  + It doesn’t return any value
* Pattern\_4
  + void Pattern\_4 (int size)
  + It prints pattern 4
  + Takes the integer variable “size”
  + It doesn’t return any value