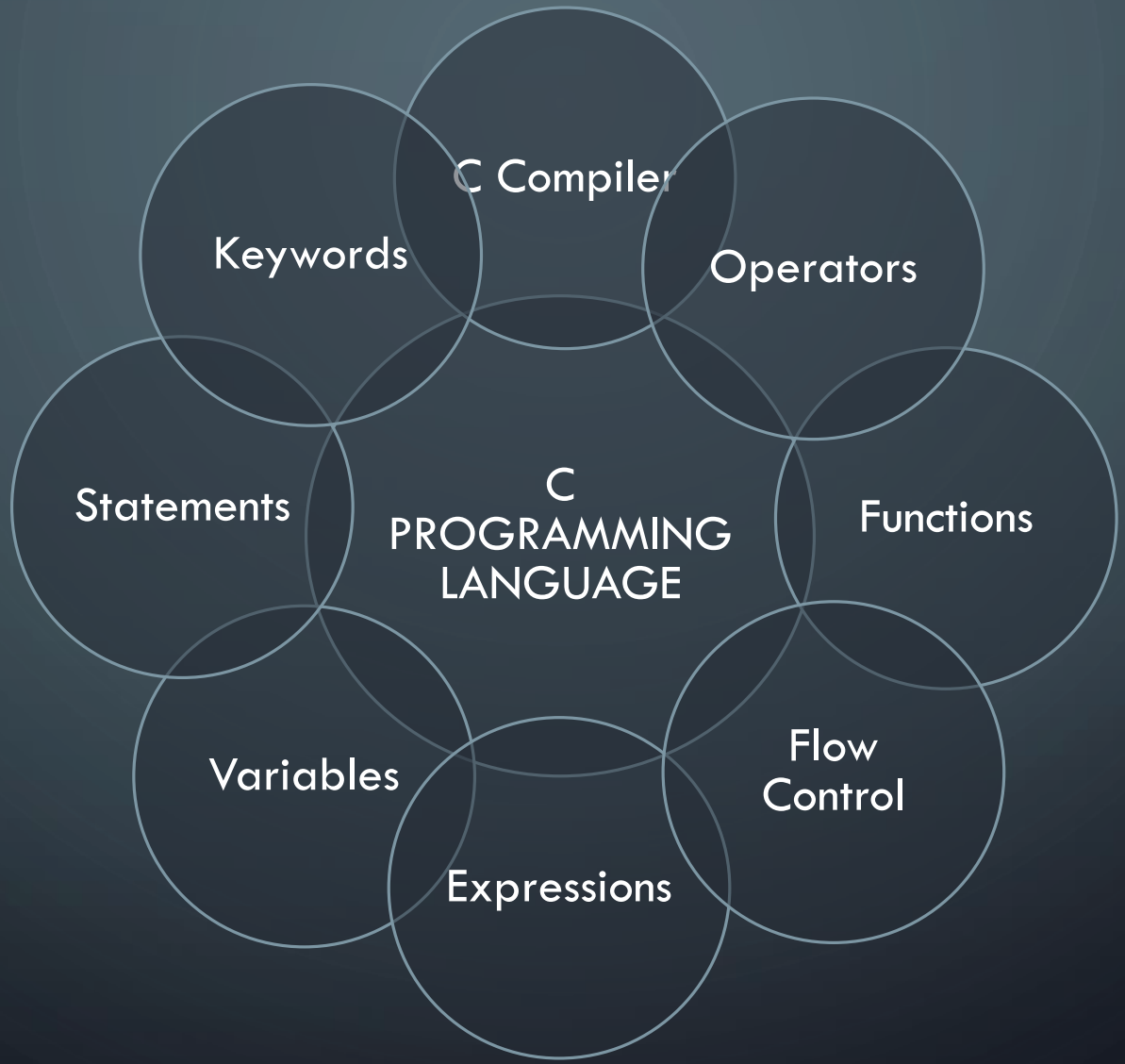
C PROGRAMMING

SPARKZTECH

ABOUT BASIC PROGRAM

- **#include <stdio.h>** includes the **standard input output** library functions. The printf() function is defined in stdio.h .
- **int main()** The **main() function is the entry point of every program** in c language.
- **printf()** The printf() function is **used to print data** on the console.
- **return 0** The return 0 statement, returns execution status to the OS.
- The 0 value is used for successful execution and 1 for unsuccessful execution.


C Compiler
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C COMPILER

- The code which is expanded by the preprocessor is passed to the compiler. The compiler converts this code into assembly code.

- Or we can say that the C compiler converts the pre-processed code into assembly code.

DATA TYPES IN C

- A data type specifies the type of data that a variable can store such as integer, floating, character, etc.

* **Types of data types:-**

- Basic datatype - (int , char , float , double).
- Derived datatype - (array, pointer, structure, union).
- Enumeration datatype - (enum).
- Void datatype - (void).

* **How to declare datatype** – (int i , float j , char c).

VARIABLES

- A **variable** is a name of the memory location. It is used to store data. Its value can be changed, and it can be reused many times.
- It is a way to represent memory location through symbol so that it can be easily identified.
- **How to declare variable -**

  int a; **float** b; **char** c;

- **Types of variables:-**
- local variable
- global variable
- static variable
- automatic variable
- external variable

- local variable - A variable that is declared inside the function or block is called a local variable.
- global variable - A variable that is declared outside the function or block is called a global variable. Any function can change the value of the global variable. It is available to all the functions. It must be declared at the start of the block.
- static variable - A variable that is declared with the static keyword is called static variable. It retains its value between multiple function calls.
- automatic variable - All variables in C that are declared inside the block, are automatic variables by default. We can explicitly declare an automatic variable using auto keyword.
- external variable - We can share a variable in multiple C source files by using an external variable. To declare an external variable, you need to use extern keyword.

KEYWORDS

- A keyword is a **reserved word**. You cannot use it as a variable name, constant name, etc.
- There are only 32 reserved words (keywords) in the C language.

Table 4 — Keywords

alignas	continue	friend	register	true
alignof	decltype	goto	reinterpret_cast	try
asm	default	if	return	typedef
auto	delete	inline	short	typeid
bool	do	int	signed	typename
break	double	long	sizeof	union
case	dynamic_cast	mutable	static	unsigned
catch	else	namespace	static_assert	using
char	enum	new	static_cast	virtual
char16_t	explicit	noexcept	struct	void
char32_t	export	nullptr	switch	volatile
class	extern	operator	template	wchar_t
const	false	private	this	while
constexpr	float	protected	thread_local	
const_cast	for	public	throw	

TO BE CONTINUED…….